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1. The first part of the document is a list of names and addresses of the members of the committee.

City of Cambridge
Massachusetts

ANNUAL REPORT
OF THE
SCHOOL COMMITTEE

PREPARED BY THE
SUPERINTENDENT OF SCHOOLS
1901



PRINTED FOR THE DEPARTMENT

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REPORT OF THE SCHOOL COMMITTEE FOR 1901

In compliance with Section 45 of the Rules of the School Board, the Superintendent herewith submits his twenty-seventh annual report, it being for the year ending December 31, 1901 : —

POPULATION OF CAMBRIDGE.

1875	.	.	.	.	.	47,838	1895	.	.	.	.	.	81,643
1885	.	.	.	.	.	59,658	1900	.	.	.	.	.	91,886
1901 (estimated)						.	.	.	.	.	.	.	92,716

SCHOOL CENSUS.

Number of children in the city five years old or more, but less than fifteen.

1885 (taken in May)	.	.	10,957	1895 (taken in May)	.	.	12,869
1890 (taken in May)	.	.	11,971	1901 (taken in September)	.	.	15,300

SCHOOLS AND CLASS ROOMS.

Latin School	.	.	.	.	1	Class rooms in use	-	-	-	14
English High School	.	.	.	.	1	" " " "	.	.	.	11
Manual Training School	.	.	.	.	1	" " " "	.	.	.	4
Grammar Schools	.	.	.	.	7	" " " "	.	.	.	95
Primary Schools	.	.	.	.	19	" " " "	.	.	.	96
Grammar and Primary Schools	.	.	.	.	9	" " " "	.	.	.	92
Kindergartens	.	.	.	.	14	" " " "	.	.	.	14
Evening Drawing Schools	.	.	.	.	2	" " " "	.	.	.	5
Evening High School	.	.	.	.	1	" " " "	.	.	.	9
Evening Elementary Schools	.	.	.	.	4	" " " "	.	.	.	18
Whole number of Day Schools	.	.	.	.	.	.	.	.	.	52
Number of class rooms for Day Schools	.	.	.	.	.	.	.	.	.	326

HIGH SCHOOLHOUSES.

Schoolhouses	Number of Class rooms	Erection of Building	Size of Lot, Square Feet	Valuation of Land	Valuation of Building	Valuation of Furniture
Latin.....	15	1897	79,759	\$43,800	\$225,000	\$27,150
English High....	11	1891	74,366	40,900	220,000	9,220
Manual Training.	4	1887	81,128	44,000	56,000	8,000
Total.....	30		235,253	\$128,700	\$501,000	\$44,370

GRAMMAR SCHOOLHOUSES.

Schoolhouses	Number of Classrooms	Erection of Building	Size of Lot, Square Feet	Valuation of Land	Valuation of Building	Valuation of Furniture
Agassiz.....	7	1875	19,689	\$8,000	\$20,000	\$1,215
Allston¶.....	12†	1857‡	15,193	4,600	30,000	1,795
Ellis.....	12†	1898	25,700	6,000	48,000	2,993
Harvard.....	16†	1871§	20,494	12,000	65,000	3,769
Morse.....	14†	1890	25,650	7,000	73,000	2,040
Peabody.....	14†	1888‡	21,813	9,800	68,000	3,340
Putnam.....	13†	1847§	14,400	9,800	64,500	2,550
Roberts.....	12†	1898	16,400	12,000	48,000	3,003
Russell.....	10†	1896	33,073	6,000	40,000	2,440
Shepard.....	11	1856‡	14,755	11,000	26,000	1,047
Sleeper.....	8	1894	21,284	5,000	24,000	1,190
Taylor.....	10†	1895	23,592	6,000	36,000	1,720
Thorndike.....	12	1860‡	10,027	4,000	30,000	1,676
Washington.....	12	1851‡	14,951	10,000	25,000	1,830
Webster.....	16†	1852‡	25,839	9,000	50,000	3,550
Wellington*.....	13†	1884‡	27,673	8,300	52,000	2,635
Total.....	192		330,533	\$128,500	\$699,500	\$36,793

* This includes another schoolhouse on the same lot containing four rooms used for primary classes.

† Also an assembly hall.

‡ Has been remodelled.

§ Has been rebuilt.

¶ Burned, December 12, 1901.

PRIMARY SCHOOLHOUSES.

Schoolhouses	Number of Classrooms	Erection of Building	Size of Lot, Square Feet	Valuation of Land	Valuation of Building	Valuation of Furniture
Boardman.....	8	1868	10,018	\$4,000	\$13,000	\$1,290
Corlett*.....	2	1880†	10,000	1,200	3,000	195
Cushing.....	2	1880†	14,787	1,500	3,000	136
Dunster.....	4	1857‡§	10,000	3,000	3,000	261
Felton.....	4	1848§	15,090	4,500	6,000	200
Gannett.....	5	1886	15,434	3,000	12,000	430
Gore.....	12	1871§	9,900	4,000	50,000	825
Holmes.....	4	1870	11,182	5,000	5,500	275
Lassell.....	4	1880	10,006	3,000	8,000	272
Lowell.....	4	1883	12,033	3,600	5,500	402
Merrill.....	8	1864	37,828	19,000	45,000	1,425
Otis.....	8	1859§	8,270	4,000	20,000	930
Parker.....	6	1893	12,319	7,000	15,000	710
Reed.....	4	1868	12,000	1,200	4,000	310
Riverside.....	4	1868	11,198	3,000	5,000	330
Sargent.....	4	1838§	9,995	5,000	3,000	255
Stearns.....	4	1843	10,050	5,000	3,000	322
Tarbell.....	4	1882	19,500	4,900	7,000	355
Willard.....	12	1870	20,079	7,000	25,000	1,350
Wyman.....	6	1871§	14,347	4,500	5,000	555
Primary, Total....	109		274,030	93,400	241,000	10,828
Grammar, ".....	192		330,533	128,500	699,500	36,793
High, ".....	30		235,253	128,700	501,000	44,370
Total.....	331		839,816	\$350,600	\$1,441,500	\$91,991

* Used for a kindergarten.

† Purchased.

‡ Moved to its present site.

§ Has been remodelled.

REPORT OF SCHOOL COMMITTEE.

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NUMBER OF TEACHERS IN THE DAY SCHOOLS.

[Special teachers are included in the total.]

December	Latin School	English High School	Manual Training School	Grammar Schools	Primary Schools	Kinder-gartens	Total
1897	16	23	Became a pub. school Jan. 1, 1899	157	127	22	354
1898	16	23		161	133	22	364
1899	19	23	14	170	138	24	396
1900	22	24	14	173	142	26	409
1901	22	24	14	177	143	25	413

ATTENDANCE AT ALL THE DAY SCHOOLS.

Year	Number of Pupils Registered	Average Number Belonging	Average Daily Attendance	Per cent of Attendance
1897	14,373	12,317	11,397	92.5
1898	15,026	12,907	11,978	92.8
1899	15,753	13,255	12,285	92.6
1900	16,203	13,816	12,684	91.8
1901	16,065	14,144	13,021	92.1

ATTENDANCE AT THE LATIN SCHOOL.

Year	Number of Pupils Registered	Average Number Belonging	Average Daily Attendance	Per cent of Attendance
1897	387	358	339	94.5
1898	398	362	343	94.7
1899	398	371	351	94.8
1900	430	404	385	95.2
1901	490	468	449	96.1

ATTENDANCE AT THE ENGLISH HIGH SCHOOL.

Year	Number of Pupils Registered	Average Number Belonging	Average Daily Attendance	Per cent of Attendance
1897	714	644	622	96.7
1898	773	685	662	96.7
1899	794	688	666	96.7
1900	572	514	491	95.6
1901	613	517	490	94.8

ATTENDANCE AT THE MANUAL TRAINING SCHOOL.

Year	Number of Pupils Registered	Average Number Belonging	Average Daily Attendance	Per cent of Attendance
1900	212	192	183	95.5
1901	217	191	184	96.2

REPORT OF SCHOOL COMMITTEE.

ATTENDANCE AT THE GRAMMAR SCHOOLS.

Year	Number of Pupils Registered	Average Number Belonging	Average Daily Attendance	Per cent of Attendance
1897	6,318	5,682	5,351	94.2
1898	6,570	5,883	5,548	94.3
1899	7,008	6,107	5,738	93.9
1900	7,192	6,295	5,891	93.6
1901	7,044	6,483	6,079	93.8

ATTENDANCE AT THE PRIMARY SCHOOLS.

Year	Number of Pupils Registered	Average Number Belonging	Average Daily Attendance	Per cent of Attendance
1897	6,368	5,192	4,741	91.3
1898	6,505	5,429	4,984	91.8
1899	6,750	5,514	5,071	91.9
1900	6,888	5,788	5,267	91.0
1901	6,815	5,840	5,310	90.9

ATTENDANCE AT THE KINDERGARTENS.

Year	Number of Pupils Registered	Average Number Belonging	Average Daily Attendance	Per cent of Attendance
1897	646	441	344	78.1
1898	780	548	441	80.4
1899	803	575	459	79.9
1900	909	623	467	74.9
1901	886	645	509	78.9

NUMBER OF PUPILS ADMITTED TO THE LOWEST GRADE OF THE LATIN SCHOOL.

Course, 5 years.

Year	Boys	Average Age	Girls	Average Age
1897	61	14 years 7 months	52	14 years 7 months
1898	49	14 years 8 months	56	14 years 3 months
1899	58	14 years 5 months	51	14 years 4 months
1900	84	14 years 5 months	70	14 years 5 months
1901	57	14 years 6 months	58	14 years 2 months

NUMBER OF PUPILS GRADUATED FROM THE LATIN SCHOOL.

Course, 5 years.

Year	Boys	Average Age	Girls	Average Age.
1897	21	19 years 1 month	14	18 years 6 months
1898	16	18 years 1 month	27	18 years 3 months
1899	16	18 years 3 months	27	18 years 5 months
1900	20	18 years 11 months	19	18 years 11 months
1901	22	18 years 7 months	34	19 years 0 months

NUMBER OF PUPILS ADMITTED TO THE LOWEST GRADE OF THE ENGLISH HIGH SCHOOL.

Year	Boys	Average Age	Girls	Average Age
1897	57	14 years 9 months	150	15 years 0 months
1898	60	14 years 8 months	169	15 years 1 month
1899	61	15 years 0 months	152	15 years 0 months
1900	56	15 years 5 months	170	15 years 1 month
1901	46	14 years 11 months	145	15 years 0 months

NUMBER OF PUPILS GRADUATED FROM THE ENGLISH HIGH SCHOOL.

Year	Boys	Average Age	Girls	Average Age
1897	14	18 years 1 month	56	18 years 9 months
1898	19	18 years 9 months	64	18 years 5 months
1899	14	18 years 4 months	45	18 years 6 months
1900	23	18 years 2 months	45	18 years 8 months
1901	13	18 years 3 months	47	18 years 9 months

NUMBER OF PUPILS ADMITTED TO THE LOWEST GRADE OF THE MANUAL TRAINING SCHOOL, WITH THE NUMBER OF GRADUATES.

Year	Admitted	Average Age	Graduated	Average Age
1897	84	15 years 4 months	20	18 years 6 months
1898	70	15 years 5 months	14	18 years 2 months
1899	92	15 years 3 months	13	18 years 6 months
1900	74	15 years 0 months	16	19 years 0 months
1901	110	15 years 2 months	21	18 years 3 months

NUMBER OF PUPILS GRADUATED FROM THE GRAMMAR AND PRIMARY SCHOOLS.

Year	Grammar Schools. Course, 6 yrs.	Average Age	Primary Schools Course, 3 yrs.	Average Age
1897	521	14 years 11 months	1,292	9 years 9 months
1898	518	15 years 0 months	1,395	9 years 8 months
1899	553	15 years 0 months	1,393	9 years 8 months
1900	582	14 years 11 months	1,423	9 years 7 months
1901	565	14 years 11 months	1,467	9 years 7 months

LENGTH OF TIME IN COMPLETING THE COURSE OF STUDY IN THE
GRAMMAR SCHOOLS.

Year	In 4 years	In 5 years	In 6 years	In 7 years or more
1897	6 per cent	30 per cent	51 per cent	13 per cent
1898	6 per cent	29 per cent	47 per cent	18 per cent
1899	6 per cent	31 per cent	47 per cent	16 per cent
1900	6 per cent	28 per cent	50 per cent	16 per cent
1901	6 per cent	28 per cent	50 per cent	16 per cent

LENGTH OF TIME IN COMPLETING THE COURSE OF STUDY IN THE
PRIMARY SCHOOLS.

Year	In 2 years	In 2½ years	In 3 years	In 3½ years	In 4 years	In 4½ years or more
1897	2 per cent	3 per cent	63 per cent	4 per cent	21 per cent	7 per cent
1898	4 per cent	2 per cent	59 per cent	6 per cent	20 per cent	9 per cent
1899	3 per cent	4 per cent	58 per cent	7 per cent	20 per cent	8 per cent
1900	2 per cent	2 per cent	59 per cent	6 per cent	22 per cent	9 per cent
1901	3 per cent	1 per cent	61 per cent	5 per cent	20 per cent	10 per cent

NUMBER OF PUPILS IN THE LATIN SCHOOL, DECEMBER, 1901.

Grade	Boys	Girls	Total	Per cent
Fourteenth.....	26	44	70	.149
Thirteenth.....	28	40	68	.144
Twelfth.....	39	40	79	.167
Eleventh.....	71	57	128	.270
Tenth.....	61	67	128	.270
Total.....	225	248	473	

NUMBER OF PUPILS IN THE ENGLISH HIGH SCHOOL, DECEMBER, 1901.

Grade	Boys	Girls	Total	Per cent
Thirteenth	28	66	94	.177
Twelfth	26	70	96	.180
Eleventh	25	108	133	.250
Tenth	59	150	209	.393
Total	138	394	532	

NUMBER OF PUPILS IN THE MANUAL TRAINING SCHOOL, DECEMBER, 1901.

Grade	Boys	Girls	Total	Per cent
Thirteenth	29	This school is for boys only. It became a part of the public school system, January 1, 1899.		.122
Twelfth	53			.223
Eleventh	55			.233
Tenth	100			.422
Total	237			

NUMBER OF PUPILS IN THE GRAMMAR SCHOOLS, DECEMBER, 1901.

Grade	Boys	Girls	Total	Per cent
Ninth	264	323	587	.086
D.	42	48	90	.013
Elighth	362	409	771	.112
C	56	83	139	.020
Seventh	504	523	1,027	.150
Sixth	505	577	1,082	.158
B	104	150	254	.037
Fifth	601	612	1,213	.177
A	121	188	309	.045
Fourth	723	659	1,382	.202
Total	3,282	3,572	6,854	

NUMBER OF PUPILS IN THE PRIMARY SCHOOLS, DECEMBER, 1901.

Grade	Boys	Girls	Total	Per Cent
Third	774	811	1,585	.277
Second	919	871	1,790	.315
First	1,208	1,109	2,317	.408
Total	2,901	2,791	5,692	

REPORT OF SCHOOL COMMITTEE.

NUMBER OF PUPILS AND TEACHERS IN THE KINDERGARTENS.

Year	Boys	Girls	Total	Number of Teachers
1899	331	337	668	24
1900	337	356	693	26
1901	355	351	706	25

NUMBER OF PUPILS BELONGING TO THE EVENING DRAWING SCHOOLS, WITH THE AVERAGE ATTENDANCE.

1896	1897	1898	1899	1900	1901
193	209	182	194	184	193
103	114	99	99	99	97

NUMBER OF PUPILS BELONGING TO THE EVENING SCHOOLS, WITH THE AVERAGE ATTENDANCE.

1896	1897	1898	1899	1900	1901
1,128	1,225	1,165	1,158	1,248	1,286
445	448	494	452	420	464

NUMBER OF PUPILS IN THE PRIVATE SCHOOLS IN CAMBRIDGE, INCLUDING THOSE IN THE PAROCHIAL SCHOOLS.

1896	1897	1898	1899	1900	1901
2,518	2,512	2,637	2,713	3,004	3,439

NUMBER OF AGE AND SCHOOLING CERTIFICATES ISSUED.

1896	1897	1898	1899	1900	1901
289	229	291	324	380	387

COST OF INSTRUCTION IN THE DAY SCHOOLS.

[Salaries of teachers, superintendent, supervisor, agent, clerks, and truant officers.]

Year	Number of Teachers in December	Average Number of Pupils	Whole Cost	Cost per Pupil
1876	176	7,066	\$164,818 00	\$23 32
1878	173	7,028	136,491 20	19 42
1880	182	7,175	130,371 75	18 17
1882	200	7,898	137,328 55	17 38
1884	216	8,414	152,290 62	18 09
1886	233	9,218	165,277 42	17 92
1888	241	9,756	175,773 80	18 02
1890	263	10,089	190,558 21	18 89
1892	284	10,861	207,144 22	19 07
1894	312	11,166	228,873 48	20 50
1896	337	11,957	245,104 01	20 50
1898	364	12,907	268,182 97	20 78
1899	396	13,255	305,744 87	23 06
1900	409	13,816	326,512 34	23 63
1901	413	14,144	336,149 80	23 77

COST OF THE DAY SCHOOLS.

[This includes the cost of instruction, of text-books and supplies, of incidental expenses, of the care of truant, and the care and repair of schoolhouses.]

Year	Number of Teachers in December.	Average Number of Pupils	Whole Cost	Cost per Pupil
1876	176	7,066	\$200,894 09	\$28 43
1878	173	7,028	162,437 77	23 11
1880	182	7,175	153,967 56	21 45
1882	200	7,898	166,230 52	21 04
1884	216	8,414	203,234 56	24 15
1886	233	9,218	207,536 46	22 51
1888	241	9,756	225,408 57	23 10
1890	263	10,089	241,980 84	23 98
1892	284	10,861	266,651 02	24 55
1894	312	11,166	287,137 37	25 72
1896	337	11,957	316,090 83	26 44
1898	364	12,907	345,566 30	26 77
1899	396	13,255	389,915 63	29 41
1900	409	13,816	417,554 00	30 22
1901	413	14,144	429,208 22	30 35

COST OF INSTRUCTION IN THE EVENING SCHOOLS.

Year	Elementary	High	Drawing	Total
1896	\$2,104 00	\$1,321 50	\$1,110 00	\$4,535 50
1897	2,086 00	1,274 50	1,060 00	4,420 50
1898	2,324 00	1,439 00	1,091 00	4,854 00
1899	2,570 00	1,499 00	1,206 00	5,275 00
1900	3,375 00	1,874 00	1,430 00	6,679 00
1901	2,777 50	1,551 75	1,205 00	5,534 25

FINANCES.

(For the financial year ending December 1, 1901.)

Cost of instruction in day schools	\$336,149 80
Cost of instruction in evening schools	5,534 25
Cost of care and repair, day schools	68,740 07
Cost of care and repair, evening schools	2,618 68
Cost of text-books and supplies, day schools	20,440 96
Cost of text-books and supplies, evening schools	345 79
Expended for incidentals	1,935 70
Expended for care of truants	1,818 69
Expended for flags	123 00
Expended for vacation schools	1,885 48
Expended for new schoolhouse, Ward I.	59,003 64
Expended for land for new schoolhouse, Ward II.	9,500 00
Expended for sundries for new schoolhouse, Ward II.	76 20
Balance expended on Felton, Gore, and Wellington schoolhouses	5,383 55
Expended on Gannett schoolhouse, sanitary arrangements	2,536 57
Expended on Lassell schoolhouse, sanitary arrangements	3,684 66
Expended on Riverside schoolhouse, sanitary arrangements	3,453 70
Expended on Tarbell schoolhouse, sanitary arrangements	3,853 80
Expended for repairs on Allston schoolhouse, fire of April 17	1,308 03
Expended for permanent improvements on different buildings	3,461 74
Expended for new boilers, heating plant and subways for Rindge manual training school and the new schoolhouse, Ward I.	10,062 80
	<u>\$541,917 11</u>
Deducting from the above the amount received from the Hopkins Fund, \$637.61, the tuition of State Wards, \$524.00, and the tuition of non-resident pupils, \$6,041.50, less a rebate of \$5.00	7,198 11
The actual cost of the schools to the city is	<u>\$534,719 00</u>
Assessed value of real and personal estates, May, 1901	\$96,216,875 00
Ratio of expenditure for school purposes to the valuation of 1901 . . . . .	.0056

STATISTICS TAKEN FROM THE FIFTY-FIFTH ANNUAL REPORT OF THE SECRETARY
OF THE STATE BOARD OF EDUCATION.

Number of towns and cities: towns, 320; cities, 83	353
Number of public schools based on the single class room as the unit of comparison	10,699
Number of pupils between seven and fourteen years of age attend- ing the public schools during the year 1900-1901	292,028
Number of different pupils between five and fifteen years of age at- tending the public schools during the year 1900-1901	413,692
Number of pupils under five years of age attending the public schools during the year 1900-1901	11,579
Number of pupils over fifteen years of age attending the public schools during the year 1900-1901	42,917

REPORT OF SCHOOL COMMITTEE.

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Number of pupils of all ages in the public schools during the year 1900-1901	468,188
Average membership of pupils in all the public schools during the year 1900-1901	406,080
Average attendance in all the public schools during the year 1900-1901	371,048
Percentage of attendance based on the average membership	91
Number of persons employed as teachers in the public schools during the year: men, 1,214 ; women, 12,408	13,622
Number of teachers who have graduated from normal schools	5,136
Average number of months the public schools have been kept for the entire year	9 mos., 5 days
Number of high schools	261
Number of teachers in high schools	1,546
Number of pupils in high schools	39,524
Total expenditure for the support of the public schools	\$11,134,933 91
Total expenditure for new schoolhouses, permanent improvements, and ordinary repairs	3,045,013 09
Entire expenditure	\$14,179,947 00

TABULAR VIEW.

DECEMBER 31, 1901.

Prepared by the Secretary of the School Committee.

Names of Schools	Teachers	Salaries	No. of Pupils Dec. 31, 1901
Latin.....	William F. Bradbury.....	\$3,000	473
	Theodore P. Adams.....	2,000	
	John I. Phinney.....	2,000	
	Max Benshimol.....	1,400	
	Helen M. Albee.....	950	
	Constance Alexander.....	950	
	Mabel V. Arnold.....	600	
	Mary A. Bachelder.....	950	
	Alice C. Baldwin.....	950	
	Isabel S. Burton.....	900	
	Alice D. Chamberlain.....	600	
	Etta L. Davis.....	700	
	Caroline Drew.....	950	
	Mary C. Hardy.....	950	
	Rose Hardwick.....	950	
	Mabel E. Harris.....	900	
	Helen W. Munroe.....	900	
	Louisa P. Parker.....	950	
	Lena G. Perrigo.....	900	
	Lucile C. Reynolds.....	700	
	Ethel V. Sampson.....	700	
	Jennie S. Spring.....	950	
	Annie S. Dodge*.....	600	
English High	Ray Greene Huling.....	3,000	532
	Edwin L. Sargent.....	2,000	
	Francis L. Bain.....	800	
	Joseph A. Coolidge.....	1,600	
	Russell T. Greene, Jr.....	1,500	
	Grace L. Deering.....	1,200	
	Caroline Close.....	950	
	Bertha L. Cogswell.....	950	
	Gertrude H. Crook.....	950	
	Mary L. Cunningham.....	600	
	Esther S. Dodge.....	900	
	Agnes B. Goerwitz.....	800	
	Bessie W. Howard.....	600	
	Katherine H. James.....	600	
	Jeannie B. Kenrick.....	700	
	Maud A. Lawson.....	950	
	Henrietta E. McIntire †.....	950	
	Mary Moulton.....	950	
	Lillian C. Rogers.....	950	
	Caroline A. Sawyer.....	950	
	Emma A. Scudder.....	950	
	Florence W. Smith.....	950	
	Martha R. Smith.....	950	
	Della M. Stickney.....	1,200	
	Annie F. Stratton.....	700	

* Secretary and Librarian.

† On leave of absence for study or travel in accordance with the rules of the School Committee.

TABULAR VIEW — Continued.

Names of Schools	Teachers	Salaries	No. of Pupils Dec. 31, 1901
English High	Mabel D. Watson.....	\$600	237
	Martha L. Babbitt *.....	600	
Manual Training.....	Charles H. Morse.....	3,000	
	Myra I. Ellis.....	1,300	
	Albert P. Briggs.....	800	
	Charles J. Foskett.....	1,080	
	Lewis D. Hill.....	1,200	
	John M. Hussey.....	1,000	
	James E. MacWhinnie.....	1,000	
	Joseph M. Norton.....	1,000	
	Frederick B. Scotton†.....	1,000	
	Walter M. Smith.....	1,000	
	James G. Telfer.....	1,500	
	Frederick W. Turner.....	1,500	
	William H. Varnum.....	800	
	Albert L. Ware.....	1,200	
	John W. Wood Jr.....	1,200	
	John J. McKenzie*.....	500	
Agassiz { Grammar.....	Maria L. Baldwin.....	1,000	{ 141
{ Primary.....	Edith C. Arey.....	600	
	Addie B. Byam.....	700	{ 139
	Mary G. Carpenter.....	700	
	Lillian G. Goodwin.....	600	
	Mary A. Parsons.....	700	
	Grace C. Stedman.....	700	
	Jennie L. Upham.....	700	
Allston { Grammar.....	Everett L. Getchell.....	1,700	{ 372
{ Primary.....	Ella S. Danforth.....	800	
	Mary A. Driscoll.....	450	{ 124
	Maude M. Dutton.....	550	
	Lucy M. Fletcher.....	700	
	Nellie M. Foley.....	550	
	Jennie C. Hardy.....	550	
	Ellen A. Kidder.....	700	
	Ella M. Leaver.....	700	
	Catharine A. McLean.....	650	
	Ethel I. Murch.....	550	
	Esther D. Paul.....	650	
	Carrie L. Power.....	550	
	Mary E. Regan.....	550	
	Evelyn M. Whitman.....	700	
Boardman, Primary.....	Elizabeth J. Karcher.....	790	389
	Mabel E. Blake.....	700	
	Margaret S. Bradbury.....	450	
	Christina R. Denyven.....	700	
	Malvina M. Joslin.....	700	
	Maud E. Kimball.....	700	
	C. Florence Smith.....	700	
	Sarah E. Stewart.....	700	
Cushing, Primary.....	Maude A. Deehan.....	760	82
	Margaret E. Sheehan.....	450	
Dunster, Primary.....	Susan E. Wyeth.....	765	71
	Mary Ellen Colby.....	700	
	Mary A. Doran.....	700	501
Ellis, Grammar.....	Edward O. Grover.....	2,000	

* Secretary and Librarian.

† On leave of absence for the school year.

TABULAR VIEW — Continued.

Names of Schools	Teachers	Salaries	No. of Pupils Dec. 31, 1901
Ellis, Grammar.....	Nellie A. Hutchins.....	\$900	170
	Caroline L. Blake.....	800	
	Helen W. Metcalf.....	750	
	Emma A. Faulkner.....	700	
	Harriet Foster.....	700	
	Lottie L. Griswold.....	700	
	Louise H. Griswold.....	700	
	Ella M. Horne.....	700	
	Ellen J. Hunt.....	700	
	Flora C. Ingraham.....	700	
	Sarah W. Mendell.....	600	
	Mabelle E. Porter.....	700	
	Mary A. Stephenson.....	700	
	Florence A. Rogers.....	770	
Felton, Primary.....	Marcia R. Bowman.....	700	178
	S. Emma Davis.....	700	
Gannett, Primary.....	Carrie H. Smith.....	700	178
	Mary A. Rady.....	775	
	Annie M. Billings.....	700	
	Katherine A. Gaskill.....	500	
Gore, Primary.....	Augusta G. Mirick.....	700	472
	Margaret F. Sanderson.....	500	
	Frances E. Pendexter.....	810	
	Katherine L. Dolan.....	600	
	Mary L. Dolan.....	600	
	Minnie A. Doran.....	700	
	Kate A. Hegarty.....	700	
	Mary A. Hurley.....	650	
	Katherine L. McElroy.....	700	
	Julia G. McHugh.....	700	
	Mary E. Mulloney.....	700	
	Anastasia Peters.....	700	
	Nora E. Reardon.....	500	
	Jane E. Whoriskey.....	700	
	Thomas W. Davis.....	2,000	
	Arthur B. Webber.....	1,300	
Harvard, Grammar.....	Ada H. Wellington.....	900	902
	Margaret B. Wellington.....	800	
	Anna M. Brown*.....	750	
	Addie L. Bartlett.....	700	
	Winifred V. Cobb.....	650	
	Nellie A. Coburn.....	700	
	Frances Fabyan.....	700	
	Margaret M. Fearn.....	650	
	Estella J. French.....	700	
	Annie B. Lowell.....	700	
	Adeline M. Murphy.....	700	
	Laura L. Parmenter.....	700	
	Louise C. Patterson.....	700	
	Annie L. Prince.....	500	
	Harriette F. Sawin.....	700	
	Elizabeth L. Setchell.....	700	
	Annie M. Street.....	700	
	Emma F. West.....	700	
	Hattie B. Woodward.....	700	
	Hortense O. Young.....	700	

* On leave of absence for the school year.

TABULAR VIEW — Continued.

Names of Schools	Teachers	Salaries	No. of Pupils Dec. 31, 1901
Holmes, Primary.....	Lucy C. Wyeth	\$760	77
	Eva G. Oakes	650	
Assell, Primary	Frances E. Whoriskey	770	186
	Rose V. Collier	700	
	Elizabeth B. Gahm	700	
	Mary E. Whoriskey	700	
Dowell, Primary	Eusebia A. Minard	765	72
	Agnes J. McElroy	700	
Ferrill, Primary	Georgia E. Martin	785	229
	Julia M. Davis	500	
	Louise W. Harris	700	
	Daisy E. Haynes	500	
	Marion B. Magwire	700	
	Nellie S. Walker	600	
Forse { Grammar	Mary A. Townsend	2,000	{ 483
Forse { Primary	Mary E. Towle	900	{ 192
	Marcia E. Ridlon	750	
	Elizabeth J. Baldwin	700	
	Ida M. Holden	500	
	Ida J. Holmes	700	
	Florence E. Hunter	600	
	Grace H. Manter	700	
	Alice E. May	700	
	Helen Montague	500	
	Anna A. O'Connell	550	
	Ella M. Pinkham*	700	
	Elizabeth H. Richards	700	
	Emilie F. Richardson	700	
	Mary E. Sawyer	700	
	Lucy M. Soule	700	
	Grace A. Stone	550	
	Mary E. Warren	650	
Ellis, Primary	Ellen N. Leighton	785	293
	Frances Allen	700	
	Josephine M. Doherty	700	
	Luella M. Marsh	700	
	Emma J. Ross	700	
	Anna M. Sullivan	450	
	Margaret Sullivan	700	
	Ellen C. Walsh	700	
Marker, Primary	Mary A. Knowles	780	255
	Charlotte E. Clapp	700	
	Butella E. L. Conland	700	
	Mattie S. Cutting	650	
	Harriet R. Harrington	700	
	Agnes Marchant	700	
Seabody { Grammar	Frederick S. Cutter	2,000	{ 355
Seabody { Primary	Charlotte A. Ewell	900	{ 127
	Susan C. Allison	700	
	Anna F. Bellows	700	
	Mary H. Ellis	700	
	Helen E. Hazard	700	
	M. Lizzie Hewitt	700	
	Katherine L. Carr	550	
	Martha A. Parker	500	

* On leave of absence for the school year.

TABULAR VIEW — Continued.

Names of Schools.	Teachers	Salaries	No. of Pupils Dec. 31, 1901
Peabody { Grammar	Effie A. Perkins*.....	\$650	624
Peabody { Primary.....	Maude R. Pullen.....	650	
	Dora Trefethen.....	550	
	Alice M. Tufts	700	
Putnam, Grammar	Frederick B. Thompson.....	1,700	
	Eliza M. Hussey.....	900	
	Gace Clark	700	
	Mary A. Carinichael.....	700	
	Anna L. P. Collins.....	700	
	Mabel Garey.....	700	
	Sarah M. Grieves.....	700	
	Hattie L. Jewell.....	700	
	Annie B. Josselyn.....	700	
	Marcia L. Marple.....	650	
	Margaret F. O'Keefe.....	500	
	Eliza S. Paddack	700	
	Katherine E. Smyth.....	450	
	Annie A. Trelegan.....	700	141
Reed, Primary.....	Minnie F. Wilson.....	500	
	Margaret T. Burke.....	770	
	Elizabeth G. Nelligan.....	550	
	Julia A. Robinson.....	700	154
Riverside, Primary... ..	Clara W. Ruggli.....	500	
	Elizabeth A. Tower.....	770	
	Amanda M. Alger.....	700	
	Mary A. Burke.....	700	523
Roberts, Grammar	Hattie A. Thayer.....	550	
	W. Mortimer MacVicar.....	1,850	
	Sara A. Bailey.....	900	
	Emily R. Pitkin.....	750	
	Susan M. Adams.....	700	
	Mary Blair.....	700	
	Mary M. Brigham.....	700	
	Elizabeth M. Breslin.....	450	
	S. Alice Fell.....	700	
	Susan L. Keniston.....	700	
	Evelyn B. Kenney.....	700	
	Ada M. Litchfield.....	700	
	Nina M. Marsh	700	
	Ida G. Smith	700	{ 306 115
	Caroline M. Williams.....	700	
Russell { Grammar	Arthur C. Wadsworth.....	2,000	
Russell { Primary	Alice G. Teele.....	900	
	Henriette E. de Rochemont.....	750	
	Carrie J. Allison.....	700	
	Fannie P. Browning	700	
	Ella E. Buttrick.....	700	
	Mary A. Connelly.....	650	
	Edna W. Hodgkins.....	700	
	H. Maud McLean.....	700	
	M. Ursula Magrath.....	500	
	Gertrude E. Russell.....	650	
	Loretta L. Shaw.....	700	
Sargent, Primary.....	Mary A. Brown.....	770	179
	Christina D. Barbey.....	700	

*On leave of absence for the school year.

TABULAR VIEW — Continued.

Names of Schools	Teachers	Salaries	No. of Pupils Dec. 31, 1901
Sargent, Primary.....	Elmira F. Hall.....	\$700	
	Marion Prescott.....	600	
Shepard { Grammar.....	Evelyn J. Locke.....	900	{ 166
Shepard { Primary.....	Mary E. Bassett.....	700	{ 190
	Corabelle H. Bates.....	500	
	Mary F. Calhane.....	700	
	Florence M. Dudley.....	700	
	Alice M. Gage.....	700	
	Mary M. Gilman.....	700	
	Theresa H. Mahoney.....	600	
Sleeper { Grammar.....	A. Estelle Ingraham.....	900	{ 186
Sleeper { Primary.....	Emily Bissell.....	700	{ 174
	Evelyn M. Dormer.....	700	
	Fannie G. Flanders.....	700	
	Elizabeth O. Haynes.....	500	
	Melissa M. Lloyd.....	700	
	Margaret E. Quinn.....	450	
	Blanche C. Trefethen.....	700	
Stearns, Primary.....	Fannie E. Higgins.....	770	190
	Maria J. Bacon.....	700	
	Ellen A. Cheney.....	700	
	Eva A. Taylor.....	700	
Tarbell, Primary.....	Emma J. Young.....	770	191
	Florence J. Alley.....	700	
	Carrie P. Pierce.....	700	
	Anna H. Welsh.....	450	
Taylor { Grammar.....	Ella R. Avery.....	900	{ 188
Taylor { Primary.....	Mary A. Boland.....	650	{ 245
	Bridget T. Boyle.....	700	
	Anna E. Callahan.....	700	
	Lillian M. Cauty.....	700	
	Josephine Day.....	650	
	Cecilia F. Leahy.....	700	
	Maud J. Paget.....	550	
	Agnes M. Sheridan.....	700	
	Mabelle S. Welsh.....	500	
Thorndike, Grammar.....	Ruel H. Fletcher.....	2,000	568
	Harriet A. Townsend.....	900	
	Laura A. Westcott.....	750	
	Annie G. Casey.....	450	
	Grace W. Fletcher.....	700	
	Lena S. Frederikson.....	700	
	Mary A. Grant.....	600	
	Harriet M. Hanson.....	700	
	Emma A. Hopkins.....	700	
	Lillian H. Kenney.....	450	
	Mary E. Nason.....	700	
	Ellen M. Plympton.....	700	
	Susan L. Senter.....	700	
	Lydia A. Whitcher.....	700	
Washington, Grammar....	John W. Freese.....	2,000	407
	Blanche E. Townsend.....	900	
	Alice P. Fay.....	750	
	Eldora J. Clark.....	700	
	Mary L. Ellis.....	700	

TABULAR VIEW — Continued.

Names of Schools	Teachers	Salaries	No. of Pupils Dec. 31, 1901
Washington, Grammar....	Winifred L. Kinsley.....	\$700	786
	Margaret M. MacVicar.....	450	
	Emma Penney.....	700	
	Margaret J. Penney.....	700	
	Bessie H. Pike.....	700	
	Hattie Shepherd.....	700	
	Mary E. Stiles.....	700	
	Marianne M. Webb.....	700	
Webster, Grammar.....	John D. Billings.....	2,000	786
	William D. Tillson.....	1,300	
	Alice C. Phinney.....	900	
	Martha N. Hanson.....	800	
	Ada A. Billings.....	750	
	Mabel T. Ashley.....	700	
	Lillian C. Burbank.....	500	
	Charlotte M. Chase.....	700	
	Fanny F. Curtis.....	700	
	Susan I. Downs.....	700	
	Josephine Hills.....	700	
	Gertrude I. Hulbert.....	700	
	Gertrude I. Johnson.....	650	
	Minnie V. Reid.....	700	
	Harriette E. Shepard.....	700	
	Olive L. Slater.....	700	
	Ellen F. Watson.....	700	
	Katherine L. Wight.....	550	
Wellington { Grammar...	Herbert H. Bates.....	2,500	{ 499
	Sarah J. Gunnison.....	1,000	
	Margaret Kidd.....	1,000	
	Mary I. Vinton.....	1,000	
	Carrie H. Stevens.....	900	
	Emma M. Taylor.....	700	
Willard, Primary.....	Training Class.....	7,783	542
	Sarah L. Baker.....	810	
	Agalena Aldrich.....	450	
	Sally N. Chamberlain.....	700	
	Elizabeth M. Crowley.....	450	
	M. Elizabeth Evans.....	700	
	Ella F. Gulliver.....	700	
	Julia S. Gushee.....	700	
	Mary E. G. Harrington.....	700	
	Katherine M. Lowell.....	700	
	Belle Menard.....	700	
	Mary A. O'Hara.....	550	
	Eliza D. Watson.....	700	
	Grace R. Woodward.....	700	
	M. Carrie Dickman.....	780	
	Addie M. Bettinson*.....	700	
	Mary H. Brooks.....	650	
	Georgianna P. Dutcher.....	700	
Wyman, Primary.....	Genevieve S. Flint.....	700	243
	Eva J. Irish.....	700	
	Agnes Ross Smith.....	500	
	Mary B. Pratt.....	700	
	Hattie P. Russell.....	500	
Kinder- garten { Boardman.....			57

* On leave of absence for travel or study in accordance with the rules of the School Committee.

TABULAR VIEW — Concluded.

Names of Schools		Teachers	Salaries	No. of Pupils Dec. 31, 1901
Kinder- gartens	Corlett	Sarah S. Wells.....	\$700	39
		Annie M. Dodd.....	600	
	Dunster	Clara A. Hall.....	700	26
	Gannett.....	Carrie E. Shepherd... ..	700	50
		Marion L. Akerman	500	
	Gore	Selma E. Berthold.....	700	60
		Jennie S. Clough.....	600	
	Lowell.....	Melinda Gates.....	700	32
	Merrill	Caroline A. Leighton.....	650	63
		Gretchen K. Weinschenk.....	500	
	Peabody	Julia L. Frame.....	650	22
	Riverside	Edith L. Lesley.....	700	50
		Olive M. Lesley.....	600	
	Shaw	Harriette E. Ryan.....	700	54
		Leonice S. Morse.....	550	
	Sleeper.....	Mabel S. Adams.....	700	62
		Caroline E. Simpson.....	500	
	Taylor.....	Mary F. Leland.....	700	71
		Bertha V. Jameson.....	500	
	Wellington	Gertrude M. Gove... ..	700	59
		Florence Rice.....	550	
	Willard	Ellen A. Watson.....	700	61
		Alice V. McIntire.....	650	

TEACHERS OF SEWING — Agnes Gordon	\$700
Alice H. Nay	600
Nancy T. Dawe	600
DIRECTOR OF MUSIC — Frederick Elmer Chapman	2,000
DIRECTOR OF DRAWING — Peter Roos	1,900
ASSISTANT IN DRAWING — Lucia N. Jennison	800
DIRECTOR OF NATURE STUDY — Sarah E. Brassill	1,000
DIRECTOR OF PHYSICAL TRAINING — Sara Eleanor Boudren	900
SUPERINTENDENT — Francis Cogswell	3,500
SUPERVISOR OF PRIMARY SCHOOLS — Mary A. Lewis	1,200
AGENT — Sanford B. Hubbard	2,100
CLERKS — Althea B. Frost	750
Myrta E. Smith	600
PORTER — John Lemon	600
TRUANT OFFICERS — Lucian S. Cabot	1,000
John Carmichael	1,000
William H. Porter	1,000
Thomas F. Riley	800

SUMMARY.

Number of pupils in Latin School	478
Number of pupils in English High School	532
Number of pupils in Manual Training School	287
Number of pupils in Grammar Schools	6,854
Number of pupils in Primary Schools	5,692
Number of pupils in Kindergartens	706
Total	14,494
Number of pupils belonging to the public schools, December 31, 1900	14,432

Increase of pupils, 1901	62
Increase of pupils, 1900	332
Increase of pupils, 1899	314
Increase of pupils, 1898	476
Increase of pupils, 1897	422
Increase of pupils, 1896	714
Increase of pupils, 1895	250
Increase of pupils, 1894	278
Increase of pupils, 1893	135
Increase of pupils, 1892	210
Increase of pupils, 1891	222
Average annual increase of pupils from 1891 to 1901 (inclusive) . . .	335

COST OF INSTRUCTION.

Schools and Officers	Cost of Instruction	Average Number of Pupils	*Cost per Pupil
Latin School.....	\$23,710 34	468	\$50 66
English High School.....	26,265 58	517	50 80
Manual Training School.....	17,968 33	191	94 18
Training School (Teachers).....	14,742 20	786	18 76
Grammar Schools(except Training School)	127,882 80	6,045	21 16
Primary Schools (except Training School)	87,492 21	5,492	15 93
Kindergartens.....	15,827 34	645	24 54
Teachers of Sewing.....	1,788 00	....	....
Director of Music.....	2,000 00	....	....
Directors of Drawing.....	2,630 00	....	....
Director of Nature Study.....	1,000 00	....	....
Director of Physical Training.....	900 00	....	....
Substitute Teachers.....	1,808 00	....	....
Superintendent.....	3,500 00	....	....
Supervisor of Primary Schools.....	1,200 00	....	....
Agent.....	2,100 00	....	....
Clerks.....	1 350 00	....	....
Tenant Officers..	3,860 00	....	....
Porter.....	600 00	....	....
Rebate on Tuition.....	5 00	....	....
Total	\$336,149 80	14,144	\$23 77

Cost of instruction in Evening High School	\$1,551 75
Cost of instruction in Evening Elementary Schools	2,777 50
Cost of instruction in Evening Drawing Schools	†1,205 00
	\$5,534 25

* It has been the practice in past years to use the number belonging to the schools in December in getting these averages. This year the average number belonging during the school year has been used. This changes the averages but seems the proper basis on which to compute them.

† The Director of Drawing is principal of these schools. No part of his salary has been included in this amount.

REMARKS ON THE STATISTICS.

The number of pupils registered during the year ending June, 1901, is 16,065; the average number belonging, 14,144; the average daily attendance, 13,021. In the per cent of attendance there has been an increase of three-tenths of one per cent over last year. The number belonging to the schools in December, 1900, was 14,432; in December, 1901, 14,494; an increase of 62. The opening of a parochial school will account for this small increase. The entire cost of the day schools, which includes the cost of instruction, of text-books and supplies, of incidental expenses, of the care of truants, and the care and repair of schoolhouses, exceeds that of last year by \$11,654.22, and the cost per pupil by \$0.13. In the cost of instruction the increase is \$9,637.46, an increase in the cost per pupil of \$0.14. The following taken from the sixty-fourth annual report of the Board of Education is of special interest in this connection:—

“The Legislature of 1900 so extended the statutory definition of support, that now for the first time it includes expenditures of every kind for the public schools except those for public school buildings, such expenditures being for the following designated purposes:—

1. Teachers' wages.
2. Conveyance of pupils.
3. Fuel and the care of school premises.
4. School committees, clerks, truant officers, etc.
5. Superintendent of schools.
6. Text-books and supplies.
7. School sundries.

Previous to 1900, items 5, 6 and 7 were not included in the statutory definition of support. Item 2 was not included previous to 1896. The earlier definition was framed in simpler times, when children were not conveyed to school, when superintendents were unknown, when pupils bought their own text-books, and sundries, if there were any, made an inconspicuous showing in the school bills. An appropriation of money for the support of public schools covers all the purposes mentioned in the statutory definition of the word.

Expenditures for public school buildings, for whatever purpose, are separated by statute from expenditures for support.

Building expenditures are for the following purposes:—

1. New schoolhouses.
2. Alterations and permanent improvements.
3. Ordinary repairs.

Money for new schoolhouses, including the land, is usually raised on bonds or notes, though sometimes by immediate taxation; for alterations and permanent improvements, sometimes by loan, and sometimes by immediate taxation; for ordinary repairs, usually by immediate taxation, but sometimes, especially if the repairs are extensive, by loan. The larger part of the total expenditure for buildings comes from loans whose final payment is distributed over a series of years. Sometimes these loans cover a variety of municipal purposes, of which school buildings are only one. Often sinking funds are established for their payment, so that the burden of payment after all is somewhat evenly reduced by annual taxation. Inasmuch as payments of loans for school buildings are thus interwoven with, covered up by, and lost in the general financial operations of towns and cities, so that it is hopeless to pick them out and account for them each year, they are not called for in the blank for the annual school returns, and so are never reported. The only way left, therefore, is to capture the money expended on buildings, whatever its source, at the time it is actually expended, and to treat it as if it were immediately raised by taxation during the year of its expenditure, whether it was so raised or not."

It appears from the above that the cost of ordinary repairs should not be included in the expenditure for the support of schools. If not included, the cost per pupil this year would be \$29.28, instead of \$30.35.

While Cambridge expends a large amount for her schools, there are *two hundred sixteen* towns and cities in the State which make a larger expenditure in proportion to their wealth. In a list of the thirty-three cities, arranged numerically according to the percentage of their taxable property appropriated to the support of public schools for the year 1900-1901, Cambridge is the *twenty-third*; and, compared with the fifty-four towns and cities of our county, Cambridge is the *thirty-fourth*. In a list of the towns and cities of the State, arranged numerically according to the sum appropriated for each child between five and fifteen years of age, Cambridge is the *thirty-second*. In a list of the towns and cities of the State, arranged numerically according to the sum appropriated for each child in the average membership of the public schools, Cambridge is the *twenty-eighth*.

These statistics relating to the schools of the State are taken from the sixty-fifth annual report of the secretary of the Board of Education.

TEXT-BOOKS AND SUPPLIES.

At a meeting of the Board in December, the committee on supplies submitted a detailed report of the expenditures of that committee for the year. The report is as follows:—

In accordance with Section 30 of the Rules of the School Board, the Committee on Supplies submits its seventeenth annual report for the year ending July 1, 1901:—

Stock on hand July 1, 1900	\$5,049 38	
Purchases and expenditures to July 1, 1901	17,951 29	
		<u>\$23,000 67</u>
Cash sales and damages	\$449 18	
Delivered to schools, officers, etc.	17,319 73	
		<u>17,768 86</u>
Stock on hand July 1, 1901		<u><u>\$5,231 81</u></u>

The purchases and expenditures have been:—

For text-books	\$6,364 54	
Desk and reference books	144 39	
Copy books	701 80	
Apparatus and furnishings	1,626 54	
Printing, \$282.15; expressage and labor, \$252.30	534 45	
Repairing books, \$426 85; diplomas, \$181.95	608 80	
Tuning pianos	11 25	
Miscellaneous supplies, etc.	7,740 70	
		<u>\$17,732 47</u>
Less the value of exchanges		92 35
		<u><u>\$17,640 12</u></u>

The net cost of text-books and supplies is as follows:—

Stock on hand July 1, 1900	\$5,049 38	
Bills paid by City Treasurer	17,640 12	
		<u>\$22,689 50</u>
Less stock on hand July 1, 1901	\$5,231 81	
Cash paid to City Treasurer, sales and damages	449 18	
		<u>5,680 94</u>
We have, net cost of all schools and officers		<u><u>\$17,008 56</u></u>

or an average cost per pupil of \$1.203. The average cost per pupil per annum for seventeen years has been \$1.255.

The annual cost per pupil for text-books and supplies since the introduction of the free text-book law is as follows:—

Year	Cost per Pupil	Year	Cost per Pupil	Year	Cost per Pupil
1885	\$1.380	1891	\$1.248	1897	\$1.094
1886	1.170	1892	1.149	1898	1.268
1887	1.051	1893	1.109	1899	1.225
1888	1.068	1894	1.243	1900	1.740
1889	0.960	1895	1.152	1901	1.203*
1890	1.334	1896	1.436		

* See note on next page.

	Net Expense	Cost per Pupil				
		* 1901	1900	1899	1898	1897
Latin School.....	\$1,841 88	\$3.935	\$6.804	\$3 245	\$3.594	\$4.251
English High School	2,190 22	4.236	4.642	3.888	3.535	2 931
Manual Training School.	2,236 07	11.707	13.515	.....	.....	.....
Training School Teachers	553 00	.704	.....	.....	.....	.....
Grammar Schools.....	4,405 48	1.068	1 747	1.476	.977	1.053
Mixed Schools.....	2,972 63	933	1.573	1.001	1 532	1 105
Primary Schools.....	1,822 28	.421	.396	.425	.540	.420
Kindergartens.....	212 20	.329	.692	.303	1.003	.634
Evening Schools.....	345 79	.....	.....	.....	.....	.....
Vacation Schools.....	25 74	.....	.. ..	.....	.....	.....
Special Teachers.....	84 65	.....	.....	.....	.....	.....
Officers of Board.....	67 51	.....	.....	.....	.....	.....
Miscellaneous expenses (not chargeable to any grade).....	269 84	.....	.....	.....	.....	.....
	\$17,026 79					
Less profits on sales.....	18 23	.....	.....	.....	.....	.....
	\$17,008 56	\$1.203	\$1.740	\$1.225	\$1.268	\$1.094

As stated above, the average expenditure for each pupil is less than last year, and less even than the average for the last seventeen years. No costly changes in text-books were made last year, nor was any new school, kindergarten, or laboratory fitted out.

During the financial year, 1901-1902, a piano should be bought for the Latin school, one for the Webster school, one for the Boardman kindergarten, and one for the newly established Peabody kindergarten. The committee also recommends a sloyd outfit for the Morse school, and a lantern and slides for the Harvard school to replace those destroyed by fire. The recent fire at the Allston schoolhouse will occasion an unusual expenditure of \$1,000, to replace the text-books, sloyd outfit, piano, and other supplies destroyed, of which, however, only about \$250 will have to be spent before November 30, 1902. The regular expenditures for text-books and supplies, estimated on the fourteen thousand four hundred ninety-four pupils in the schools on December 1, 1901, will be \$18,200. Adding the probable cost of the other items enumerated above, \$1,800, the sum needed will be \$20,000.

The care of flags and flagstaffs has cost \$148.50 during the year, and the estimate for the current financial year is \$200.

* It has been the practice in past years to use the number belonging to the schools in December, in getting these averages. This year the average number belonging during the school year has been used. This changes the averages, but seems the proper basis on which to compute them.

CHANGES IN TEXT-BOOKS.

The following is the rule relating to changes in text-books: "All proposals for changes in text-books shall be made to the superintendent. If believed by him to deserve consideration, he shall appoint two persons, one of whom shall be a teacher in the service of the city, and they and the superintendent shall examine and each make a written report on the the proposed books. These reports shall be kept on file in the office of the superintendent, and shall be open to inspection by members of the Board only. Changes so considered may be recommended to the Board for adoption, when they shall be referred to the committee on text-books."

Under this rule the following text-books have been adopted by the Board during the year 1901:—

For use in the Latin school, Bouvet's Exercises in French Syntax and Composition; Lamartine's Scènes de la Révolution Française.

For use in the English high school, Bowen's Introduction to Modern French Lyrics; Enault's Le Chien du Capitaine; Guerber's Contes et Légendes; Legouvé et Labiche's La Cigale chez les Fourmis; Bullock's Introduction to the Study of Economics.

For use in the high schools, Shepard's Harmony Simplified.

For use in the Rindge manual training school, Tuft's Polyhymnia.

For use in the primary schools, Blaisdell's Child Life Primer; Carroll's Around the World, Book I.; Holbrook's Hiawatha Primer.

SCHOOL ACCOMMODATIONS.

The following is from the report of the committee on schoolhouses:—

During the year no additional building for school purposes has been completed, nor have additional accommodations been provided, so that the schoolhouses which were crowded a year ago are crowded even worse at present.

A building containing fourteen rooms and a hall, which is intended to accommodate the Washington school and some of the classes of the training school, was begun in the early spring near the Rindge manual training school. It is hoped that it will be ready to be occupied after the spring recess. The appropriation for this building was \$80,000; for the work done to December 1, \$59,003.64 has been paid.

Land has been purchased, plans accepted, and an appropriation of \$80,000 made for a schoolhouse on Willow street; but we cannot hope that it will be ready for occupancy before the beginning of 1903.

The Allston schoolhouse was seriously damaged by fire on Thursday, December 12. This is the third time that fire has occurred in this

building. The other dates were February 20, 1896, when it cost about \$800 to repair it; and April 17, 1901, when the cost of repairs was \$1,308.03. The damage is now so great and the general construction and condition of the building is such that it seems unwise to repair it. There were four hundred ninety-six pupils belonging to this school at the time of the fire, and there were many tenement houses near the building. It is evident, therefore, that a schoolhouse of the capacity of the one destroyed is needed on this site or in the immediate vicinity.

The city council adopted the following on July 2 :— Ordered, "That an appropriation is hereby made in the sum of thirty thousand dollars (\$30,000.00), for the purpose of putting improved sanitary arrangements into the Lassell, Gannett, Riverside, Tarbell, and Stearns schoolhouses; also for removing the present boilers at the manual training school, and substituting boilers of sufficient capacity for furnishing power and heat for the entire group of city buildings in the vicinity of said manual training school. Said sum to be provided for by a schoolhouse loan to be hereafter authorized."

From the amount so appropriated the following sums were expended during the summer vacation on special repairs and changes in sanitary arrangements :—

Gannett	\$2,536 57
Lassell	3,684 66
Riverside	3,453 70
Tarbell	3,853 80
Total	<u>\$13,528 73</u>

To December 1, \$10,062.80 was expended on the boilers, subways, etc., at the Rindge manual training school and the new school building, leaving \$6,408.47 still available for these buildings. This brings the expenditure on account of the new building to \$96,471.27. The amount expended under the regular appropriation for care and repairs of school buildings is \$76,128.52. This may be classified as follows :—

Janitor service	\$34,033 66
Janitors' supplies	1,779 41
Mrs Johnson, care of Cedar Hall	180 00
Fuel	16,494 86
Gas and electric lighting	2,737 23
Furnishings	1,069 48
Repairs to the Allston schoolhouse, fire of April 17	1,308 03
Painting and decorating the Felton schoolhouse	1,001 50
Painting and decorating the hall of the English high school	297 00
Painting and decorating the Peabody schoolhouse	550 00
Painting and decorating the Wellington schoolhouse	549 00
Changes in heating at the Ellis schoolhouse	352 12
Changes in heating at the Taylor schoolhouse	712 12
General repairs	15,064 62
Total	<u>\$76,128 52</u>

Nothing has been done to improve the drainage at the Boardman and Sargent schools, or the ventilation at the Holmes, Reed, Riverside, and Tarbell. The seats have not been changed at the Thorndike, nor has any tinting been done at the Agassiz or Dunster as was recommended by the committee. The kindergarten floors to which attention has been called are still rough and unfit for rooms used for this purpose.

As last year, the pressing need is for a schoolhouse near the Cambridge Field and this is all the more urgent now that the Allston schoolhouse is useless. It will probably be a year at least before the building on Willow street is completed. The need of a schoolhouse in Ward Four is more and more apparent, all the school buildings in that ward being filled to their utmost capacity. The Willard has sixty in one room and averages forty-nine in the eleven rooms, and the rooms are smaller than those in more recent buildings. At the Morse school one room has sixty-three pupils and others are practically full.

PLAN OF THE SCHOOL REPORT.

For twenty years the subject matter and arrangement of the statistical part of the school reports have remained essentially unchanged ; and for the past five years each report has contained certain definite information, relating to the organization and conduct of the schools, such as is frequently sought by parents and persons interested in school affairs. The same general plan has been followed in preparing this report. In one respect, however, a change has been made. The cost of the schools per pupil, as shown in all the tables of this report, is based on the average number of pupils for the school year, and not, as heretofore, on the number of pupils belonging to the schools during the first week in December. Neither method is entirely satisfactory. The difficulty is that the school year and the financial year do not correspond. The school year ends with June, and the financial year with November. The number belonging to the schools during the first week in December may or may not represent the attendance during the year, for during the last months of the year a private or parochial school may have been opened, as is the case this year, or some prevailing sickness may have taken a large number from the schools. The average attendance for the school year would not be precisely the same as the average for the months of the financial year, but it would be a uniform basis for finding the cost per pupil from year to year, and not be liable to the objections of the former method.

Latin School. The following table shows the membership of the Latin school and the cost of instruction from year to year for the past ten years :—

December	Average Number of Pupils	Number of Teachers in December	Cost of Instruction	Cost per Pupil	Number of Graduates
1892.....	213	10	\$12,751 07	\$59 86	22
1893.....	251	11	13,425 66	53 49	23
1894.....	303	12	14,359 66	47 39	27
1895.....	354	14	15,059 58	42 54	25
1896.....	373	15	16,525 00	44 30	34
1897.....	358	16	17,355 00	48 42	35
1898.....	362	16	18,325 00	50 62	43
1899.....	371	19	19,318 68	52 07	43
1900.....	404	22	21,819 00	54 01	39
1901.....	468	22	23,710 34	50 66	56

The cost of the Latin school to the city is less than the above sums by the amount received from the Hopkins Fund, which can be used only for classical instruction, and by the amount received for the tuition of non-resident pupils. This year the amount received from the Hopkins Fund was \$637.61; for the tuition of non-resident pupils, \$931.

The course of study is arranged for five years, or for four years, and is almost wholly decided by the requirements for admission to Harvard College. Twelve per cent of all the graduates have completed the work in four years. The following is the rule relating to the admission of pupils to the high schools: "Pupils who have received the diploma of a Cambridge grammar school may, on recommendation of the master, be admitted to either high school without an examination. For other persons who desire admission, an examination shall be held at the beginning of the autumn term under the direction of the superintendent, but pupils who are qualified to join existing classes may be admitted at any time on application to the principal. No pupil from any grade in a grammar school shall be examined who does not present a satisfactory certificate that he has pursued his studies during the summer vacation."

From three-fourths to four-fifths of the graduates are usually recommended for admission without an examination. About one-half of the remaining part study during the summer vacation, as required by the rule, and take an examination in September. Pupils who pass a fairly good examination are permitted to attend either high school until the Christmas vacation, at which time their connection with the school as regular pupils ends unless their work has been satisfactory.

Diplomas of graduation signed by the mayor and the head master of the school are awarded to pupils of the high schools who have successfully completed the course of study or its full equivalent, and have sustained a good character.

For non-resident pupils the tuition is \$80 a year, payable in advance,—one-half at the beginning and the other half at the middle of the school year. The sessions of the school begin at 8.30 A. M., and end at 1.30 P. M.

The following is from the report of the head master of the Latin school:—

In September, 1901, four hundred eighty-one pupils were registered. Of seventy-two pupils who had an option between Greek and a modern language, forty-four chose Greek, twenty-one German, and seven French. Of seventy-eight pupils who had an option between chemistry and physics, sixty-eight chose chemistry, and ten physics.

The school acknowledges with pleasure the gift of a number of valuable pictures and casts from its friends. Under the direction of the

Alumni Association a movement is under way to canvass thoroughly the various classes for money to be used in purchasing works of art for the school. The sum needed is \$5,000. When this money is raised, some definite and harmonious scheme for the complete decoration of the building will be carried out. Seven classes have already responded generously, namely, the classes of '57, '58, '65, '66, '71, '77, and '93.

During the year the following purchases have been made from the money previously presented to the school : —

From that given by Messrs. Edwin A. and Stanley B. Hildreth :
1. The cast of the Frieze of the Parthenon (completed). 2. Cast : bas-relief of choir boys at Museum of Florence, by *Luca della Robbia*. 3. Large framed photograph : The Caryatides from the Erechtheum. From that given by Mr. Frederick P. Bonney : 1. Large framed photographs of Washington and Franklin, and four group pictures of American authors.

In addition to the above the following gifts have been received : —

1. Large framed photograph : Sistine Madonna, from Mr. William A. Munroe. 2. Large framed photograph : Stratford-upon-Avon, from the class of 1874, Cambridge high school. 3. Large framed engraving : Horses' Heads, by *Rosa Bonheur*, in memory of Miss Miriam J. Fitton, class of 1893, given by her mother. 4. Large framed photograph : Zeus, from the class of 1901. 5. Cast : bas-relief of choir boys at Museum of Florence, by *Luca della Robbia* (companion piece to the one mentioned above), from the editors of the *Latin and High School Review*.

English High School. The following table shows the membership of the English high school and the cost of instruction for ten years. Until January 1, 1899, the pupils of the Rindge manual training school were included in the membership of the English high school. This explains the smaller number of pupils since 1898 : —

Year	Average Number of Pupils	Number of Teachers in December	Cost of Instruction	Cost per Pupil	Number of Graduates
1891.....	480	16	\$18,767 50	\$39 10	48
1892.....	529	19	20,488 50	38 73	77
1893.....	569	19	22 095 00	38 83	95
1894.....	611	21	23,051 00	37 73	91
1895.....	648	21	24,369 40	37 60	89
1896.....	632	21	24,612 00	38 94	72
1897.....	644	23	25,194 09	39 12	90
1898.....	685	23	26,051 17	38 03	97
1900.....	514	24	25,250 50	49 13	68
1901.....	517	24	26,265 58	50 80	60

There are four courses of study, — a general course, a course preparatory for the scientific schools, a commercial course, and a domestic science course, each arranged for four years. The commercial course was formerly a two years' course, and the course in domestic science has recently been introduced.

It is the plan of the courses that all pupils in the school shall pursue substantially the same subjects for their first year, but thereafter shall have increasingly divergent studies, opened to choice within reasonable limitations, and determined largely by aptitude and expectation of subsequent career.

These general statements apply to all the courses : —

1. All pupils will have a weekly exercise in music (choral singing).
2. Drawing is required of all once a week for the first year, and is opened to all as an extra subject during the remaining three years.
3. It is expected that no two foreign languages will be begun the same year; that any foreign language once begun will ordinarily be continued for two years, and that a modern foreign language will not be continued longer than two years, except by work in conversation.
4. Variations from the courses as stated are permissible with the approval of the head master.

The requirements for admission to this school and the rules relating to the granting of diplomas are the same as for the Latin school.

For non-resident pupils the tuition is \$80 a year, payable in advance, — one-half at the beginning and the other half at the middle of the school year. The sessions of the school begin at 8.30 A. M., and end at 1.30 P. M.

The following is from the report of the head master of the English high school : —

There were seven boys from the English high school who took thirty-nine examinations at the Lawrence Scientific school, passing in thirty-four. Two of the five failures were in subjects in which the candidates were recommended by the school. Eight honors were taken by four boys. At the Institute of Technology nine boys and one girl took forty-five examinations, passing in forty-one. Of the four failures two were in subjects in which the candidates were recommended by the school. All who took final examinations were accepted "clear," and four of them anticipated by examination seven subjects of the freshman year.

The domestic science course is proving its usefulness and commanding increased interest among both pupils and parents. Gratifying evidence of the approval of this work in the homes of the girls who take it has recently been received. The numbers in the course are much the same as last year, though the sloyd pupils are more numerous, and those in cook-

ing somewhat less. The variations are not significant. Experience is helping to demonstrate what portions of the large field of the domestic arts and of household hygiene are best suited to the needs of high school pupils, with the result that the quality of the work is advancing each year. It will be remembered that the distinctive subjects of this course fill only one-third of the pupil's time for the last three years in the school. Subjects of a purely cultural character occupy the same pupils two-thirds of their time or more.

The commercial work of the school is developing naturally and wisely. The bookkeeping, and the stenography and typewriting, continue to enlist and hold the interest in a marked degree, leading to extra work at personal sacrifice of the pupil in many instances. It is evident that it will be wise to plan for some continuance of stenography and typewriting in the way of practice through the last year, if real efficiency is to be expected upon graduation. This year for the first time the study of economics has been taken in the final year of the commercial course. A class of twenty-six pupils, averaging about seventeen and a half years in age have devoted an hour a day to this subject. First they made a study of the different occupations pursued in Cambridge, with detailed reports on the business of individuals personally known to members of the class. In this way they came to understand the factors in production,—man, nature, capital; also to know the concrete meaning of such terms as landlord, capitalist, manager, wage earner, rent, interest, labor, taxes, and profits; and still further to discover the common purpose of all work, the creation of what is useful, and the different ways in which utility is created. The class appears to be interested and to find the instruction within its grasp. We are feeling our way in the selection of material and in choice of methods, and already see ways in which to improve the work another year.

The result of strengthening the commercial course by the addition of stenography and typewriting and of economics is seen in the relatively larger numbers now found in our upper classes. As was hoped, there is an increased desire on the part of the commercial pupils, who formerly left in large numbers at the end of the second year, to remain through the four years.

The work carried on for the benefit of deficient pupils of the fourth class, who under the strict operation of the rules might have been sent away from the school; was even more successful than heretofore. The young teachers, under supervision, were successful in discipline, and did helpful work with these pupils. The class which was in charge of one of our own experienced teachers was still more successful. The fruit of this effort is seen in the fact that a division formed from this "Fifth

Year Class" has practically finished the required algebra work in the first half of their second year, and will be able to make some solid acquisitions in geometry by the end of the year. They have not only been kept in school, but have been brought to a higher state of efficiency than has before been practicable. This is a distinct gain from every point of view.

Within the last year the school has received from the editors of the *Latin and High School Review* a bust of Louis Agassiz, the third gift from that source within three years. The class of 1901, also, since graduation, has sent a pleasing reminder of their interest in the form of a gift of fourteen volumes of history and literature, all immediately useful in forwarding the regular work of the school.

It seems to the head master very desirable that the walls of the assembly hall, recently tinted and decorated in very attractive style, should bear portraits of the former principals of the school. They have been few in number, only six since the high school was established on the fourth of October, 1847, and four of these are yet alive. It seems especially important that the features of Mr. Elbridge Smith and Dr. William J. Rolfe should be caught upon the canvas before the ills incident upon advancing years make the task more difficult. It will never be easier than now to search out and obtain portraits of the two deceased principals, Mr. Osgood Johnson, and Mr. Lyman R. Williston. And the pupils of the latest two, Dr. William F. Bradbury, and Dr. Frank A. Hill, will surely prefer to see their faces looking down in the way they looked in the days of their familiar service. Are there not friends of the school who feel prompted to initiate a movement to provide these mementoes of a useful and honored past, as a help and inspiration for the school of the present and the future? The newly formed "Cambridge English High School Alumni Association" would form an excellent agency for the execution of such an enterprise.

Rindge Manual Training School. This school was founded by Mr. Frederick H. Rindge in 1888. For ten years he paid the current expenses of the manual training department, the city providing for the academic instruction. January 1, 1899, a complete transfer of the entire plant was made to the city, and the school became an integral part of the school system.

The following table shows the membership of the manual training school and the cost of instruction for two years:—

Year	Average Number of Pupils	Number of Teachers December 1	Cost of Instruction	Cost per Pupil	Number of Graduates
1900	192	14	\$17,825 73	\$92 84	16
1901	191	14	17,988 33	94 18	21

The cost of the manual training school to the city is less than the above sums by the amounts received from Harvard University for the instruction of a class of students during the summer vacation, and for the tuition of non-resident pupils. The amount received this year from both sources was \$4,877.50.

The course of instruction covers four years. The sessions are five and one-half hours a day, instead of five, as in the other high schools. About one-third of the time is given to the work of manual training, and the remainder to the subjects usually taught in high schools, with the exception of Latin and Greek.

The requirements for admission to this school and the rules relating to the granting of diplomas are the same as for the Latin school.

For non-resident pupils, the tuition is one hundred fifty dollars a year, payable in advance,—one-half at the beginning, and the other half at the middle of the school year. The sessions of the school begin at 8.30 A. M., and end at 2 P. M.

The following is from the report of the head master of the Rindge manual training school:—

Since the city assumed the responsibility of the Rindge manual training school the growth has been steady, and the work of the teachers marked with enthusiasm and a purpose to make successful men of the boys entrusted to their care. At the end of the fall term we registered two hundred fifty-three boys, as compared with two hundred sixteen at the corresponding time in 1900.

Our entering class is too large to be well cared for in three divisions, and present indications are that next year's third class will be much larger than the present one; next fall it will probably be necessary to increase the shop accommodations and the number of teachers to care for the increased numbers.

Last April we sent to Buffalo four panels of our shop work and a complete set of drawings, for exhibition in the Pan-American Fair. In December notice was received from the director general that a *gold medal* had been awarded the exhibit. This exhibit is now at the fair in Charleston, South Carolina.

The apparatus put into our gymnasium has been a source of pleasure and profit to the pupils. It was hoped that the city council might establish an outdoor gymnasium in the rear of the public library for the benefit of the large number of pupils in the four schools, but the trustees of the library decided that the space is too limited for the purpose, and that there were other objections to the plan. Some provision, however, should be made for outdoor exercise for these pupils.

The city has provided us with convenient subways between the shop basement and our science building, and the new building is also connected by subway with our science building. At present we are much in need of additional rooms for our academic work. It is hoped that some of the rooms in the new building may be ready for our use before the first of March.

The number of tuition pupils, that is, of those coming from out of town and paying to the city \$150 per year for the privilege of attending our school, is unusually large this year, there being twenty who are thus taking advantage of what Cambridge offers its boys free of charge.

The number of pupils who desire to learn to care for the engine and to fire the two large boilers (250 horse power) has increased to a marked degree. This work is not a part of our prescribed course, but is allowed to those who desire to take it as an extra. The class now consists of eight pupils.

The additional lathes installed during vacation are proving very valuable. Our foundry has been enlarged and much improved this year and is now a credit to the school. The dining room has been provided with seats and extra tables. The lunch counter is under the charge of Mr. Ralph D. Perry, a former pupil of the school. Under the close supervision of the teachers, the athletic exercises of the school are becoming a factor for good and should receive the encouragement of the committee. We wish to thank the committee on supplies and the agent for the careful consideration they have given to each of our requests for tools and supplies. One additional teacher will probably be required next September.

Manual Training in Other Schools. The statutes require that every town and city of twenty thousand or more inhabitants shall maintain, as part of both its elementary and its high school system, the teaching of manual training. The Rindge manual training school gives the required instruction to boys of the high school grade, and provision is made in the English high school for girls of this grade, sloyd being taught in the second year, and cooking in the third. Sewing in the grammar schools may be considered as meeting the requirements for girls in the grammar

grades. For two years provision was made at the Allston school for instruction in sloyd for the boys of that school, and for two classes of twenty pupils each, one from the Roberts school and the other from the Wellington. The Allston schoolhouse was burned December 12. No provision has yet been made for these classes, but probably a room in the Roberts school will be used. The recommendation of last year has been carried out, and two additional rooms have been fitted up, one in the Putnam schoolhouse, Ward Three, and another in the Shepard schoolhouse, Ward Five. These rooms are now used for evening school classes, and arrangements will soon be made for their use for the day schools. The work of manual training in all the schools is under the direction of the head master of the Rindge manual training school.

Wellington (Training) School. This school was opened in September, 1884, and differs from the other schools in this respect, — all the grades, except the eighth and ninth, are taught by young teachers. Their work, however, is done under the immediate supervision of a master and three assistants, who are held responsible for the instruction and management of the school. For several years the seventh grade has been taught by a graduate of the training class.

The object of conducting a school on this plan is to give Cambridge young women who desire to teach, and who have made special preparation for the work, an opportunity to gain experience under conditions favorable to their own success, and without prejudice to the interest of their pupils.

Graduates of the English high school or of the Latin school, who have also graduated from one of our state normal schools, are preferred candidates for the position of teacher in this school. Other persons of equal preparation may be appointed.

The required term of service is one year. Teachers are appointed on probation, and may be excused or dismissed at any time by the superintendent, with the approval of the committee on the training school.

No teacher is considered a graduate of the school until by vote of the training school committee she is admitted to the graduate class, which is known as Class B.

The money compensation for the first three months, and until satisfactory service is rendered, is at the rate of two hundred dollars a year. For the remaining part of the year it is at the rate of two hundred fifty dollars.

Graduates temporarily employed as teachers in this school are paid at the rate of three hundred dollars a year. Graduates selected to act as substitutes in any school are paid at the rate of four hundred fifty dollars.

That the direct influence of the school may be continued, it is the duty of the master, or of one of the supervising teachers, occasionally to visit the schools of the graduates who are teaching in Cambridge.

The school contains all the grades of the grammar and primary schools and a kindergarten, the number of pupils being nearly nine hundred.

By the rules of the school board the superintendent is authorized to employ as many substitutes and temporary teachers as may be necessary to take the places of absent teachers. These teachers are usually assigned to the training school, when not otherwise employed, that there may be at this school a sufficient number of teachers to make it practicable for the members of the training class to visit other schools.

The following is from the report of the committee on the training school :—

At the opening of the school in September there were about nine hundred pupils, including those in the kindergarten. On account of the crowded condition of the school, two classes have to be accommodated in the assembly hall and one in the basement. During the year twenty-threeteachers have been admitted to the training class. Several of these have withdrawn because of unsuccessful work or on account of ill health.

The number of teachers connected with the training class since the organization of this school, not including those admitted within a year, is three hundred eighty-seven. Of this number, sixty-nine left the school before the end of the required term of service, or failed to meet the requirements for graduation. The number of graduates is two hundred sixteen. More than 90 per cent of these have found positions in the schools of Cambridge, and about 5 per cent have been employed in other cities. At the present time 44 per cent of the teachers in our grammar and primary schools, not including those in the Wellington school, are graduates of this school.

On account of the delay in building another schoolhouse in Ward Two, the Wellington school is still in a crowded condition, but it is expected that relief will come in the near future.

Grammar Schools. The number of pupils in these grades on the first of December was six thousand eight hundred fifty-four, and the number of teachers, including masters and special teachers, was one hundred seventy-seven. The average number of pupils in these grades during the school year was six thousand four hundred eighty-three.

The cost of instruction for each pupil for the year has been \$21.16. This does not include the cost of supervision.

For non-resident pupils the tuition is \$30 a year, payable in advance, — one-half at the beginning and the other half at the middle of the school year.

The course of study is for six years, but the schools are so classified as to give the pupils an opportunity to complete the course in four years or in five years. The average age of those who entered last September was nine years nine months. The number of graduates was five hundred sixty-five, their average age being fourteen years eleven months. Of these, 6 per cent completed the course in four years, 28 per cent in five years, 50 per cent in six years, and 16 per cent in seven years or more.

Pupils are promoted by classes from the primary schools at the beginning of the autumn term; but individual pupils may be promoted at other times, if it is deemed expedient by the supervisor of primary schools and the superintendent.

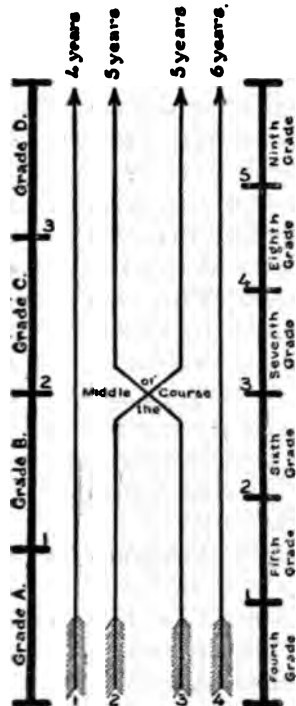
Promotions from grade to grade in the grammar schools, and from the grammar to the high schools, are made by the teachers under the direction of the masters and the superintendent. Pupils qualified to join existing classes may be admitted at any time on application to the master of the school. No regular pre-announced examinations are held in these schools, but the results of such written exercises and reviews as the teachers and masters may require from time to time may be used as a part of the basis of promotion.

The thoroughness with which the work is done in any school is shown in part by the ability of the pupils to do the work in the high schools. The pupils are admitted to the high schools on trial; and, by the rule of the high school committee, any pupil who fails to maintain a suitable rank is reported to that committee, and no pupil thus reported can continue in either high school, except by special vote. For two years, however, provision has been made by which these pupils have been allowed to remain in the English high school, and receive such instruction as would best fit them to enter again upon the regular work of the school at its reorganization in September.

In the grammar schools special teachers are appointed to help such pupils as seem able to do the work in less than six years, and to aid those who without personal instruction would require more than six years. This action of the committee removes the most serious objection to the graded system of schools.

The course of study is divided in two ways: (1) into six sections; (2) into four sections; each section covering a year's work. Pupils taking the course in six years are classified in six grades, called the fourth, fifth, sixth, seventh, eighth, and ninth grades. Those taking it in four years are classified in four grades, called grades A, B, C, and D. When pupils

are promoted to the grammar schools they begin the first year's work together. After two or three months they are separated into two divisions.



One division advances more rapidly than the other, and during the year completes one-fourth of the whole course of study. The other division completes one-sixth of the course.

During the second year the pupils in grade B are in the same room with the sixth grade. At the beginning of the year they are five months (one-half the school year) behind those in the sixth grade. After two or three months, grade B is able to recite with the sixth grade, and at the end of the year both divisions have completed one-half the course of study—the one in two years, and the other in three years. The plan for the last half of the course is the same as for the first half, the grades being known as the seventh, eighth, and ninth in the one case, and as C and D in the other.

There are also two ways of completing the course in five years: (1) any pupil who has completed one-half the course in two years may at the end of that time be transferred to the seventh grade, and finish the course in three years; (2) any pupil who has completed one-half the course in three years may at the end of that time be transferred to grade C, and finish the course in two years. In both cases these changes can be made without omitting or repeating any part of the course.

It is now ten years since the schools were first classified on this plan. During this time five thousand two hundred eighty-three pupils have graduated from the grammar schools. Of this number, 8 per cent completed the course in four years, 30 per cent in five years, 47 per cent in six years, and 15 per cent in seven years or more.

Of the number who entered the Latin school during the past seven years, 15.1 per cent did the work in the grammar schools in four years, 46.5 per cent in five years, and 38.4 per cent in six years. Of those who took the general course in the English high school, 11.5 per cent did the work in the grammar schools in four years, 40 per cent in five years, and

Arrow No. 1 indicates the four years' course; grades A, B, C, D. Arrow No. 2 indicates one of the five years' courses; grades A, B, 7, 8, 9. Arrow No. 3 indicates the other five years' course; grades 4, 5, 6, C, D. Arrow No. 4 indicates the six years' course; grades 4, 5, 6, 7, 8, 9.

48.5 per cent in six years; of those who took the commercial course in the English high school, 8.8 per cent did the work in the grammar schools in four years, 38.6 per cent in five years, and 52.6 per cent in six years. Of those who entered the Rindge manual training school, 6.9 per cent did the work in the grammar schools in four years, 36.2 per cent in five years, and 56.9 per cent in six years.

During the past seven years, more than 50 per cent of the pupils entering the high schools did the work in the grammar schools in less than six years, 41.1 per cent doing it in five years, and 11.2 per cent in four years. It does not follow, however, that because so many did the work in less than the full time, the plan is a good one. The value of the plan is shown rather by the thoroughness with which the work has been done, not in one year only, but in a series of years. The results of the first year's work in the high schools would seem to be a test of this thoroughness. The records in these schools show that for seven years the average per cent of the pupils who were four years in the grammar schools was higher than the per cent of those who were five years in the grammar schools, and that the per cent of those who were five years in the grammar schools was higher than the per cent of those who were six years in the grammar schools.

The average per cents of the first year's work in the different high schools for seven years are as follows:—

In the Latin school, the average per cent of the pupils who completed their grammar school work in four years is 79.4; of those who completed it in five years, 74.8; of those who completed it in six years, 70.1.

In the general course of the English high school, the average per cent of the pupils who completed the grammar school work in four years is 78.3; of those who completed it in five years, 75.8; of those who completed it in six years, 73.

In the commercial course of the English high school, the average per cent of the pupils who completed the grammar school work in four years is 73.4; of those who completed it in five years, 71.8; of those who completed it in six years, 69.9.

In the Rindge manual training school, the average per cent of the pupils who completed the grammar school work in four years is 76.9; of those who completed it in five years, 67.5; of those who completed it in six years, 67.

The results given above are based on the first year's work in the high schools. This year for the first time results have been obtained based on the full course in the high schools. Last June fifty-six pupils were graduated from the Latin school. Of this number, forty-three were graduates of the Cambridge grammar schools. Of these forty-three,

eleven did the work in the grammar schools in four years, and their average per cent for their Latin school course was 83.4; twenty-three did the work in the grammar schools in five years, and their average per cent for their Latin school course was 76.6; nine did the work in the grammar schools in six years, and their average per cent for their Latin school course was 75. One pupil who did the work in the grammar school course in four years, completed the work in the Latin school in four years. Two pupils who did the work in the grammar school course in five years, completed the work in the Latin school in four years.

Sixty pupils were graduated from the English high school last June. Of this number, fifty-two were graduates of the Cambridge grammar schools. Of these fifty-two, six did the work in the grammar schools in four years, and their average per cent for their high school course was 78.4; twenty-one did the work in the grammar schools in five years, and their average per cent for their high school course was 78.2; twenty-two did the work in the grammar schools in six years and their average per cent for their high school course was 77.6; three were seven years in doing the work in the grammar schools and their average per cent for their high school course was 70.

These results do not indicate as thorough preparation for high school work as is desirable, but they do show that there are some pupils who can do the same amount of work as others in less time, and do it as well and even better. If the pupils who spent only four or five years in the grammar schools should have remained longer, it is equally true that the time should have been lengthened for those who had been in these schools six years. In every course of study provision should be made for the more rapid advancement of a part of the pupils, or for additional work for those able to do it.

Primary Schools. The number of pupils in these grades on the first of December was five thousand six hundred ninety-two, and the number of teachers was one hundred forty-three. The average number of pupils in these grades during the school year was five thousand eight hundred forty.

The cost of instruction for each pupil for the year has been \$15.93. This does not include the cost of supervision.

For non-resident pupils the tuition is \$20 a year, payable in advance, — one-half at the beginning and the other half at the middle of the school year.

The course of study is for three years. Children five years old are admitted to the first grade at the beginning of the school year and during the first week in March. Pupils qualified to join existing classes may be

admitted at any time on application to the principal. At the present time, 41 per cent of the pupils are in the first grade; 31 per cent in the second; and 28 per cent in the third.

One thousand four hundred sixty-seven pupils graduated last June, at an average age of nine years seven months. Of these, 4 per cent completed the course of study in less than three years; 61 per cent in three years; and 35 per cent in more than three years.

Promotions from grade to grade in the primary schools, and from the primary to the grammar schools, are made by the primary teachers, under the direction of the supervisor of primary schools and the superintendent. Promotions by classes are made annually at the beginning of the autumn term; but individual promotions are made at other times if it is deemed expedient by the supervisor of primary schools and the superintendent.

Pupils are promoted to the grammar schools on trial, and those who show by their work that they are unprepared are returned to the primary schools on the approval of the supervisor of primary schools and the superintendent.

Once a month the teachers of each grade meet the directors of special studies and the supervisor of primary schools. These meetings are held in the English high school building on Wednesday afternoons, half an hour after the close of the schools. The work for the coming month is planned; criticisms and suggestions in regard to methods are made; and questions from the teachers are answered and discussed.

Occasionally specimens of written work from all the pupils are brought for examination. In this way the amount of work done in the schools is made somewhat uniform; new teachers are kept informed as to the requirements, and pupils lose less time when a change of teacher or school becomes necessary.

The supervisor of primary schools writes as follows:—

The changes made in the course of study, which reduced the number of lessons in drawing and nature work, and gave an hour of unassigned time each week, were welcomed by all the teachers, and many of them feel confident that the final results in the two studies mentioned will be even more satisfactory than before.

During the past year an earnest effort has been made to secure satisfactory results in spelling. The teachers of the first and second grades sent in lists of words, and from these lists the words most generally called for have been selected, thus making a common stock of words to be added to by each teacher according to the needs of her pupils.

Experience shows that although many children remember best what they see, many others remember more readily what they hear. For this reason much more time is now given to oral spelling than formerly.

In discussing methods of teaching spelling, Mr. Edward R. Shaw, the dean of the school of pedagogy, New York University, writes as follows: "From the experiments made and the verification of the conclusions in actual school application, I am convinced that the motor apparatus used in speech should be employed to a large extent in teaching spelling. * * * And in that preparation the letters should be grouped into syllables and the syllables pronounced according to the method of a generation or two ago. * * * If we would give the vocal organs training, we must give them work to do in clear and exact articulation and enunciation. There is no other exercise in the schoolroom comparable to this oral preparation of spelling lessons and the pronunciation of each syllable in the manner which I have indicated to secure these most desirable results. * * * Care then in the right kind of oral preparation, with considerable oral test before writing, training pupils to build up words by using the small unities into which words can be divided, is a method of teaching spelling productive of the best all-round results."

Last June an exhibition of desk work was planned, with the object of showing how the special studies might be correlated with and made helpful to the written language. Although this came in the crowded part of the year, the response from both teachers and pupils was most enthusiastic, even the children who had been less than four months in school sending in creditable pen and ink work. The results were so gratifying and helpful, and the interest taken in them so great, that it is hoped there will be an opportunity to repeat the experiment this year.

Kindergartens. There are fourteen kindergartens. The number of pupils on the first of December was seven hundred six, and the number of teachers was twenty-five. The average number of pupils during the school year was six hundred forty-five.

The cost of instruction for each pupil for the year has been \$24.54. This does not include the cost of supervision.

The following is from the report of the committee on kindergartens:—

The principal of the Willard kindergarten, Mrs. Ellen A. Watson, was granted leave of absence for the school year ending June, 1901. On account of severe illness she has not yet been able to resume her duties. During her absence, Miss Alice V. McIntire, the assistant, has been acting principal. Miss Caroline A. Wolcott, the assistant at the Dunster kindergarten has also been absent on account of illness since last April. The opening of a parochial school in September reduced the number of pupils in this kindergarten and in the Lowell, and therefore no assistant has been required in either kindergarten since that time.

A new kindergarten, with thirty pupils and one teacher, was established in the Peabody school building December 2, 1901. The establishment of this kindergarten has been earnestly urged by the parents in the neighborhood for some time. It provides for the children in the Agassiz and Peabody districts, and a large increase in the number of pupils may be expected in the spring term.

Thirteen mothers' clubs connected with the kindergartens serve to bring the mothers and teachers together at least once a month. Several of the clubs have established a "fathers' night," with marked success. The teachers visit the children in their homes once a term or oftener.

In many ways the mothers show a keen appreciation of the kindergarten, not only attending the monthly meetings, but taking frequent opportunities of observing the children at their daily work. Whenever this interest and sympathy are extended to the higher grades, both teacher and pupil are benefited. Last summer one of the mothers' clubs supported a vacation kindergarten, with two teachers, for four weeks, and not only provided for the children in their own district, but received as many as they had room for from another district.

The "stamp-saving" system has been introduced into some of the kindergartens by ladies interested in the work.

In October of this year an association of the teachers of the Cambridge kindergartens was organized for mutual improvement.

Special Studies. The committee on special studies has the supervision of the instruction in nature study, drawing, music, physical training, and sewing.

Nature Study. The work in nature study includes the study of plant and animal life with some study of minerals and of weather phenomena.

The study of plants was first undertaken, and still makes up the larger part of the work. The study of animal life consists mainly of lessons on insects and birds. The mineral work is confined to lessons on common metals and on building stones.

Plants are studied in grades one to four inclusive; insects in grades one and two; birds in grades three and four; weather phenomena in grades one to three inclusive; and minerals in grade four only.

Specimens chosen for study are those in which the pupils have a present interest, and all work is based on present experience. It is kept well within the capabilities of children, yet novel enough to require their best effort. Wherever it can be made to blend with other lines of school work, this is done.

The results sought are increasing knowledge of facts gathered by observation; familiarity with environment; and a growing sympathy with nature.

The following is from the report presented by the committee on special studies:—

In planning the nature work for the year, it seemed best to give prominence to those things that were nearest to the pupils' interests and environment. Whatever of growth or change there has been in our work has been in accordance with this thought.

In September the pupils of the first grade studied the wild flowers which they were able to find; in October, the autumn leaves; in November, the fruits found in nearby markets; in December, the evergreens. These gave place in the spring to buds and seeds, and later to the early wild flowers.

The second grade reviewed and extended the work of the first year, finding new specimens and new facts in regard to them.

The third grade were able to do more thoughtful work, grouping and comparing the specimens studied. In the grammar grade some study of minerals during the winter, and of birds and their nests in spring and fall, was introduced.

All lessons given have been arranged to parallel the changing seasons, and all specimens used have been those appropriate to the time of year. Each month one thought has been made a center about which to group all the work of the month. This thought changes with the grade so that there is no sameness in the work, each lesson being based on one that has been given and leading up to one to come. There is, therefore, a sequence and a grading in the work.

Much that is best in the nature work is and should be interwoven with other lessons. The habit of examining specimens is growing among the pupils. More voluntary work outside of school, — simple but genuine, — is being done. This is a step in the right direction. The pupils should learn to make the most of nature out-of-doors, in the school yards, and parks. We must depend for permanent gain more on the quality than on the quantity of work done, and more on the habit of seeing than on the memory of what has been seen.

Drawing. The course of instruction in drawing in the primary and grammar grades includes form, color, and designing.

The study of form, by means of type models and drawing, is begun in the first primary year, and is succeeded in the grammar grades by object drawing, drawing with instruments, and drawing from nature. This last subject receives especial attention during the spring and autumn months.

Color is studied in all the grades, colored tablets being used in the primary grades and water colors in the grammar grades. Harmony and

mixing of colors are treated as a science in special exercises; while color skill is artistically expressed in original designs, historic ornament, and nature study.

In design, attention is given both to construction and decoration, embracing a large variety of subjects.

In the English high school, drawing is a required study the first year, and is carried forward upon a plan of which the following is an outline:—

Drawing from objects and from casts, drawing from nature of plant form, drawing to scale, designing (constructive and decorative), and color harmony.

Drawing, designing, or water-color painting, may be taken as an elective study after the first year. The course of lessons includes landscape, still-life, and advanced designing.

In the English high school, the instruction in drawing is given by the director of drawing and his assistant. In the primary and grammar grades, it is given by the teachers under the supervision of the director and his assistant.

In the Rindge manual training school, there are two teachers of drawing, one of mechanical drawing, and the other of free-hand, and the work is done under their immediate instruction.

The following is from the report presented by the committee on special studies:—

Owing to changes made in the general course of study last year, it became expedient to adjust the course in art study in accordance with the new time schedule. This has been accomplished in such a way as to make the teacher's work in this study less complicated. Each teacher will have her entire part of the course in the form of a booklet fully illustrated, thus making separate drawing manuals superfluous in the future.

This outline is further intended as an object lesson to the pupils in patience, thoughtfulness, and industry—essential qualities for success in any line of art work.

The custom of inviting the teachers to meet the director of drawing one evening each week during the winter months has been continued this year with a larger attendance than usual. There is evidence that a healthy interest in the subject prevails generally in the schools.

The limited amount of time (one lesson period per week) allowed for art study in the English high school precludes the possibility of any very high results being attained there, as even double that amount of time would be considered short for exercises that properly follow the work of the ninth grade. However, for the limited time given to it, the classes

are doing good work on a line of topics designed so as to meet these particular conditions.

Music. Instruction in music by the National or Mason system is given by the regular teachers in the primary and grammar grades, and by the director of music in the Latin school and English high school. All the schools, except the Rindge manual training school, are under his supervision, and every pupil who is capable of learning to sing is required to give attention to the subject.

Fifteen minutes a day in primary, and ten minutes a day in grammar grades, are devoted to this study; and pupils are taught to sing and sustain their parts in reading compositions in two, three, and four parts.

In the Latin school and English high school, forty-five minutes a week are given to the study of musical form and expression as found in choruses, quartettes, etc., from the standard operas and oratorios. Elementary harmony, counterpoint and composition have been introduced as elective studies for the second and first classes, and boys as well as girls having a special aptitude for music are the ones who naturally elect these studies, the only requisite being some knowledge of the piano-forte.

The students are instructed in scale formation, intervals, a logical and comparative view of all true chords, in order to give them the power to construct and resolve these chords for themselves.

The study of harmony is carried well into modulation, and of counterpoint through four simple orders or species, including both the major and minor modes.

Two periods each week are devoted to instruction, and occasionally the best compositions of the students are sung or played before the entire school; in this way showing the practical side of the work which will prove an important factor in future teaching. It is hoped that as the importance of these studies becomes better recognized, they will be allowed to count in an entrance examination to college.

In the Rindge manual training school, a teacher of singing is employed a part of the time. He leads the singing at the morning exercises and gives regular instruction each day at that time.

It is expected that special instruction will be given to the student teachers of the Wellington training school, in accordance with the recommendation of the director of music.

Physical Training. The Ling system of physical training is used in all the grades of the primary and grammar schools. Games supplementary to the gymnastic work have been introduced throughout the

primary grades and the four lower grammar grades. These games are exercises in the form of play, and thus serve the double purpose of training and amusement.

The essential aim of the teaching is to make the gymnastic period one of healthful exercise and recreation.

Ten minutes are given each day to the work in the grammar grades, and fifteen minutes in the primary grades. The instruction is given daily by the regular teachers under the supervision of the director of physical training, who visits each schoolroom, except those of the eighth and ninth grades, as often as time will allow, and who also holds meetings with the teachers.

The following is from the report of the director to her supervising committee:—

During the two and a half years of my directorship, my aim has been to raise the standard of work in the minds of both teachers and pupils. Formerly a gymnastic lesson of ten minutes' duration divided the morning session into two nearly equal periods, while in the afternoon five minutes were given to games or marching. During the past summer the committee appointed to revise the time schedule reduced the gymnastic period in the grammar grades to ten minutes a day. Under the new schedule I am required to plan for two periods of five minutes each per day.

Educators, the world over, hold that physical training is a very important subject. It improves the body by calling into action the various groups of muscles, stimulates the circulatory and digestive system, and by its effect on nerve centers tends to make one alert, observing, accurate, prompt, self-controlled.

I ask that the present plan may be abandoned, and that we may be allowed not less than fifteen minutes each day for gymnastics.

There is need of a more thorough understanding of this subject by the teachers. New members are added to the corps each year. They come to us with a varying amount of knowledge of the subject of gymnastics. Under the present conditions, there is neither time nor place for instruction other than that given at the time of my regular visit to each schoolroom. With some of the new and many of the old teachers this is not sufficient to keep the work up to standard.

While the teachers will bear me out in making the statement that the quality of the work in gymnastics has improved during the past two years, they will also admit that there should be a broader knowledge of the subject on their part.

In anticipation of the opening of the gymnasium in the Latin school, it would be but natural to carry the work of supervision into the eighth

and ninth grades. This could be done most conveniently by adding one grade at a time for two successive years.

If the primary classes continue to take recess out-of-doors, they will need less supervision, and the time thus gained might be used to advantage in these two higher grades.

But it is quite important in planning for this step, to make provision for keeping up the interest by providing a small amount of apparatus. Why should the benefits of a gymnasium training be reserved for the few who attend the high school?


I urge the adoption of a plan something like the following: all the new buildings and some of the old ones have either spacious corridors, or unoccupied rooms in the basement. Let one or two pieces of apparatus be permanently placed in these available spaces, while certain pieces could belong to several buildings in the same district, and could be used part of the year by the classes in one building and then passed on to the next in the group. This would not be an expensive plan, but would provide a variety of apparatus.

All buildings erected in the future should have a large room on the ground floor set apart for gymnastics and games, and should have additional support sufficient to prevent jar to the whole building when higher grades are running, jumping, and vaulting.

Last spring the pupils of the primary grades were allowed the privilege of returning to the old-fashioned but refreshing outdoor recess. This was not made compulsory, but was left to the discretion of the principal. A few immediately embraced the opportunity with beneficial results. Not a few offered many and varied objections to the plan, and it was only after frequent solicitations that they were prevailed upon to break the routine of school work by a short period of freedom, fresh air, and sunshine. During the fall nearly all the primary classes were taking the recess out-of-doors at least once each day, and in a few instances twice a day. Many teachers testify to the freshness and renewed energy with which the children return to their work after this period of relaxation.

In the olden days schoolrooms were arranged to present a symmetrical appearance when viewed from the corridor. There are in Cambridge to-day many schoolrooms with desks so placed that light enters at the back and the right side of the room. This is wrong, and could be so easily corrected that this unhygienic condition should not be allowed to exist any longer.

During the spring and summer the rooms in several buildings were reseated with a view to improving the lighting. Much still remains to be done in this direction.



Sewing. Sewing is taught to the girls of the three lower grades in the grammar schools, and to the boys of the fourth grade who desire the instruction. Forty minutes are given to the work once a week in each grade. All the boys of the fourth grade are now learning to sew. The position of director of sewing has been established, and Miss Agnes Gordon, the senior teacher, has been elected to fill the place. The work now requires the services of two teachers besides that of the director. The director reports that the work is going on regularly and pleasantly.

Cooking. Cooking is taught in the English high school to the girls who elect the domestic science course. This course became one of the high school courses in September, 1899. Girls of the ninth grade of the grammar schools, who did not intend to go to the high school, have been permitted to take one lesson a week in cooking during the last half of the school year, arrangements having been made for afternoon lessons at the high school building.

School Libraries and the Public Libraries. The English high school has a library of about three thousand volumes. The Latin school has only about one-third of this number. Comparatively few books of a miscellaneous character have been added to these libraries for several years, the public library meeting the demand for such books. The need of the schools is for books of reference and for sets of books for class study.

The grammar schools, with the exception of the Morse and Webster, are not supplied with books for general reading. These are obtained from the public library, and during the year eight thousand nine hundred seventy-two books have been delivered to the schools, two hundred eighty-five of these being for the use of the vacation schools.

The question of bringing public libraries and public schools into close relation is one that deservedly receives the most thoughtful consideration in all educational circles. At the last meeting of the National Educational Association seven papers were read before the library department, and no one can read these papers without feeling that the public libraries and the public schools are one in their aim and purpose.

Mr. Metcalf, the president of this department, who is one of the supervisors of the schools of Boston, must have listened to these papers with great satisfaction, for he was one of the first to form a close connection between the public library and the public schools. In his opening address before the department, Mr. Metcalf spoke at length on the library movement—what it needs and what it should include. The following selections are from this address:—

“The best public library is that which most successfully leads its patrons to want only the best books, and from its own treasures satisfies

these wants most completely. The library is a public educator. The library and the school are co-ordinate institutions; neither is complete in itself, but each is necessary to the success of the other. * * * A good public library stands for what is highest and best in a community. An ideal librarian knows and loves books, and he will make any needed sacrifice to assist both young and old in selecting such courses in reading as are most likely to interest, instruct, and healthfully stimulate the reader. * * * The ordinary reading-books serve an excellent purpose by furnishing material for training pupils in the art of reading; but such material is too scrappy to lay a satisfactory foundation for reading good literature. The child must be led by orderly steps (1) to become a lover of good reading, and (2) to become a somewhat reflective and appreciative reader of the best books in our libraries. Such training will be successful only when the teacher himself is a lover of good books; a person whose whole nature responds to the author's thought, and whose intellectual training makes him appreciative of the beauty of the author's language in which his thought is clothed. * * * While calling upon the libraries for all the help which they are able to give both to the school and to the community, I would not forget the duty which the school owes to the library. Building up large public libraries, filling the shelves with the best and most costly books, employing skilful librarians and assistants to administer the affairs of the institution when completed—all these will fail to make the free public library a great public blessing, unless the schools do their share in preparing children for a wise use of the treasures which the libraries now so freely offer. Schools should be furnished generously with good books by the school authorities, and these books should be carefully read by the pupils under the direction of some accomplished instructor. A large saving of time is made when chapters, and even whole books, are read in class, freely commented upon by teacher and pupils, and beautiful passages pointed out, carefully studied, and committed to memory. Much of the reading, however, may be done by the pupils at home, leaving the "reading hours" in school for informal discussion, and for asking and answering questions by teacher and pupils. Children thus come to love good books, and to appreciate an author's art in the construction of his story. What better work can a teacher do for his pupils than to lead them on step by step in their daily reading, until they become lovers of good reading, and then step by step still forward, until a taste for what is best in literature is surely gained, and becomes the guiding star in all future reading?"

From the other six papers only brief selections are taken. The following seem especially appropriate in this connection:—

"The directors of public schools and the directors of public libraries should be in close touch with each other. * * * The teachers in the

public schools, and the officers and other workers in public libraries, should confer frequently concerning their common work. * * * School authorities and teachers should give especial attention to the library work of children, and should endeavor to interest them in the public library as an institution which can minister very effectively to their later growth and enjoyment. * * * Teachers should urge those children who must drop out of school to continue reading on different lines, the teacher herself continuing personal and helpful relations as long as possible. * * * The public library, like the public school, has come to believe that the hope of the future lies in the education of the child. The modern progressive public library has dedicated a room to the children. Nor is it a room in some dark basement corner, but a large, bright room, with plenty of light and air, attractive pictures on the walls, low bookshelves filled with carefully selected and beautifully illustrated books, and an attendant specially trained for work with the children. * * * No one outside of the home ever enters as intimately into the life of the child as does the teacher. The child is compelled to go to school a certain number of hours a day for a given number of years. He goes to the library when he chooses. Therefore we look to the teacher to inspire in him a taste for good reading, and to train him in an economical use of books. It is the librarian's duty and privilege to prepare the material for the teacher's use, and to be ready to take up the work with the child when he leaves the school for the day, the vacation, or for all time. * * * One relation of the library to the school is in its helping to lift the school work by means of good literature and art into the higher region of the æsthetic and the spiritual. When Horace Mann entered so enthusiastically, sixty years ago, into the establishment of district-school libraries, his argument was that the schools might thus be enabled to make, not only the minister, the doctor, the lawyer, the artisan, but the *man*, with all his higher powers cultivated, and not merely his ability to do certain work. * * * If the interests of children at different periods are consulted and the right literature is at hand, the problem of making children love good literature is largely solved. But the presentation needs a word of suggestion. Man's power to get images from printed characters is a late acquisition. The human voice is a much older means of firing the imagination. Undoubtedly children may be best introduced to good literature by the story-teller or the good reader. There should be more reading aloud in home and library and school. * * * No child in an environment of those who love good literature, if allowed to come to the table, will fail to acquire the taste. Probably the teacher should sing and should draw, but before we legislate in this respect, let us see that no teacher who knows not literature, and loves it not, is appointed to the charge of children of any age. A knowledge of children's interests and a love of literature in the teacher, and

our problem is easily solved. * * * The library is to be recognized, not as something desirable, but as an absolutely necessary complement to the schools in any satisfactory educational system. * * * Not only must the library be so used as to assist in the education of the child, but the school in its turn must recognize its duty to equip the child for the future enjoyment of the library. Two worlds offer their riches to every youth who steps out from the threshold of the school—a world of affairs and a world of books. Happy he who is well prepared to participate in both!”

Evening Schools. The following account of the evening schools is given by Mr. Hubbard, the agent of the school committee, who has the general supervision of these schools:—

There are seven evening schools—two drawing schools, one high school, and four elementary schools. In accordance with the rules of the school board, there are two terms of the evening schools. The first term begins on the second Monday of October, and continues every Monday, Wednesday, and Friday evening until the end of the week before Christmas. The second term begins on the first Monday, Wednesday, or Friday evening after the opening of the day schools in January, and continues thirty-five evenings. The sessions begin at half past seven and continue two hours. No session is held on the evening of a holiday, or during the vacations of the day schools.

The evening drawing schools are under the supervision of the director of drawing for the day schools. There are two of these schools, one for instruction in mechanical drawing, which occupies four rooms in the Central square building, and one for instruction in free-hand drawing, which occupies the drawing room in the English high schoolhouse. In the mechanical school two courses are provided,—a three years’ course in machine drawing, and a three years’ course in architectural drawing. In the free-hand school provision is made for a three years’ course in free-hand drawing. Diplomas are given to graduates of either course.

The evening high school is held in the English high school building, and offers a three years’ course of instruction in the following subjects: arithmetic, bookkeeping, penmanship, English composition, English literature, civics, history, algebra, geometry, stenography, Latin, French, and German. Diplomas are granted to graduates of the three years’ course.

The elementary evening schools occupy rooms in four of the grammar school buildings, the Allston, Putnam, Shepard, and Webster. Reading, writing, arithmetic, geography, language, history, and bookkeeping are taught in these schools in classes, so far as classification is possible, but a large part of the work is individual. No definite course is arranged, but an opportunity is offered to pupils to prepare to enter the evening high school, and certificates of admission are given to those who are quali-

fied to begin the work in that school. In addition to the subjects given above, classes in civil service, sewing, wood working, and mechanical drawing are formed when a sufficient number express an intention to take any one of these courses.

The following table shows the attendance of the evening schools for 1900-1901, compared with that of the preceding year:—

Schools	Number Registered	Average Attendance	Average Number of Assistants *	Average No. of Pupils to a Teacher *	Number of Graduates
Mechanical Drawing..	121	65	4	16	9
1899-1900.....	108	61	4	15	8
Free-hand Drawing...	72	32	2	16	5
1899-1900.....	76	38	2	19	7
Evening High.....	365	165	8	20	8
1899-1900.....	369	150	8	19	17
Allston School.....	376	127	15	8	32
1899-1900.....	304	106	16	7	16
Putnam School.....	244	73	9	8	11
1899-1900.....	231	72	9	8	12
Shepard School.....	153	45	6	7	8
1899-1900.....	174	32	6	5	4
Webster School.....	148	54	6	9	11
1899-1900.....	170	60	7	8	9
Total.....	1,479	561	50	11	84
1899-1900.....	1,432	519	52	10	73

* The principals and curators are not included in these averages.

The following table shows the cost of the evening schools for 1900-1901, compared with that of the preceding year:—

Schools	Cost of Instruction	Cost of Text-books and Supplies	Cost of Light, Fuel, and Janitor	Total Cost	Cost per Pupil
Mechanical Drawing..	\$802 00	\$33 76	\$314 92	\$1,170 68	\$18 01
1899-1900.....	947 00	55 36	208 62	1,210 98	19 85
Free-hand Drawing...	403 00	34 08	108 04	545 12	17 04
1899-1900.....	483 00	13 40	67 90	564 30	14 85
High School.....	1,551 75	50 79	972 36	2,574 90	15 61
1899-1900.....	1,874 00	113 14	611 08	2,598 22	17 32
Allston School.....	1,182 00	101 18	381 67	1,664 85	13 13
1899-1900.....	1,362 50	69 40	221 30	1,653 20	15 60
Putnam School.....	603 50	55 97	376 01	1,035 48	14 18
1899-1900.....	797 50	18 60	212 78	1,028 88	14 29
Shepard School.....	510 00	35 75	207 46	753 21	16 73
1899-1900.....	556 50	27 47	156 05	740 02	23 13
Webster School.....	482 00	14 26	258 22	754 48	13 97
1899-1900.....	658 50	20 34	206 95	885 79	14 76
Total.....	\$5,534 25	\$345 79	\$2,618 68	\$8,498 72	\$15 14
1899-1900.....	6,679 00	317 71	1,684 63	8,681 39	16 73

The following is from the report of the committee on evening schools:—

The foregoing tables show that, except in the free-hand drawing school and in the Webster school, the number of pupils is larger, and, except in the free-hand drawing school, the expense per pupil less than during the previous year, notwithstanding the increased salary paid to several of the teachers for special work during the last term of the year. The reduction would have been larger but for the increase in the expenses for lighting, which was greater than during the preceding year by \$891.75, caused by the payment this year of many bills for lighting which should have been paid during the previous year. The reduction in the amount paid for salaries of teachers is \$1,144.75, or \$2.04 per pupil on the average attendance. This reduction has been accomplished by a better classification of the pupils, so that a teacher has been able to instruct a larger number than was possible by the method of individual work.

By the class method there is an immense gain in efficiency as well as in economy, for all members of the class are giving and receiving attention constantly, and are learning from one another as well as from the teacher.

Class work is necessary in wood working, drawing, sewing, and preparation for civil service examinations. These subjects were introduced in the Allston school at the beginning of the second term; and class work has been extended to other classes, notwithstanding the protests of many teachers that it was impracticable.

The class in civil service contained fourteen members, and though it was not organized until the beginning of the second term in January, two members passed examinations for railway mail service with credit. Seven members of this class received certificates of admission to the evening high school, but several of these returned to the Allston school this fall to continue the civil service work.

There were seventeen in the class in sewing, all girls working at various occupations. Their attendance was regular, and their enthusiasm for the work was marked. A majority of them have joined the class this term. They made sewing bags, needlebooks, pinballs, and other small articles, furnishing most of the materials on which they worked, and learning a variety of stitches, useful and ornamental. Those who have returned this term are cutting and making shirt waists and skirts, under the direction of the teacher whose efficiency and enthusiasm have contributed so much to the success of the experiment. They devoted one hour each evening to sewing and the other to the study of *Ivanhoe*; this term bookkeeping takes the place of *Ivanhoe*.

There were forty-one, from fourteen to eighteen years of age, in the

wood working and drawing classes, working in two divisions on these subjects on alternate evenings. Ten pupils of these classes received certificates of admission to the mechanical drawing school. Fifteen members of the class fitting for the evening high school received certificates of admission to that school. The committee was fortunate in the selection of teachers for these experimental classes.

The attendance and work at the evening high school was about as usual, though some of the classes were badly broken by the illness of teachers which compelled a change during the term, always a serious injury to evening school work. Diplomas were given to eight pupils of this school at the end of the year in March.

In the mechanical drawing school, the usual course of study was completed with the addition of some free-hand work, sketching, and lettering, made possible by the lengthening of the term. Nine pupils received diplomas, — four in the machine course and five in the architectural course. In the free-hand drawing school, five pupils received diplomas at the end of the last term.

The total number registered in all the schools in 1900-1901 was one thousand four hundred seventy-nine, an increase of forty-seven over the preceding year. The average attendance for the year was five hundred sixty-one, an increase of forty-two for sixty-five evenings.

The whole number registered during the present term, to December 1, 1901, was one thousand five hundred seventy, an increase of one hundred twenty-one over the number registered last year. The average attendance to this date was eight hundred ninety-one, an increase of one hundred fifty-three over last year.

The fire at the Allston schoolhouse, on December 12, interrupted a very successful evening school. At the end of the Christmas vacation, however, provision was made for lighting the Roberts schoolhouse, and the classes resumed work in that building.

It is recommended that in future a still more careful classification of pupils be made, and that only teachers be employed who are experienced in class work; that a course of study for the evening schools be prepared, so that pupils and teachers may know what is expected of them and may have in view an object to be attained, this being a strong incentive to effort in any work; that next year the Rindge manual training school be opened for evening work to those young men in our factories and workshops whose success in their daily occupations will be facilitated by instruction by and practice under skilled teachers in wood working, pattern making, blacksmithing, and machine-shop work, these courses to be offered to those only who are engaged in work akin to these, and who will be made more successful by instruction in these subjects; that the com-

mittee on evening schools for 1902 be requested to consider the salaries of teachers in the evening schools, and report for the consideration of the Board a scale of salaries for all these schools which shall be equitable to all and shall secure the best possible service.

The support of evening schools is required by public statutes and the problem for the Board is so to conduct them that the community shall receive the largest possible benefit for the money expended.

Truant Officers. Four officers are employed. The city is divided into four districts, and each officer has assigned to him the schools in one district. Among their duties are the following: to visit each school at least once a day, unless otherwise directed by the agent; to prevent children from loitering about the school premises; to notify the teachers of all cases of contagious and infectious diseases reported by the board of health; to attend the evening schools when so directed by the agent of the Board to assist in the preservation of order, and to visit places of business where children are employed to see that none are employed unlawfully. They make all complaints for truancy, absenteeism, or school offences at the district court, attend the trials as witnesses, and take boys to the Middlesex county truant school when they are sentenced.

By the rules of the school board the work of the truant officers is done under the supervision of the committee on schoolhouses; and under the direction of this committee, it is the duty of the agent of the Board to consider all cases of truancy, of persistent violation of the rules of the school, of juvenile vagrancy, of unlawful detention from school, of neglect by parents; and of any failure on the part of pupils or parents to comply with the rules of the school committee or the public statutes relating to school attendance. It is also the duty of the agent to direct the officers to make complaints; to certify the records in these cases when presented before the district court; and to exercise such supervision of the boys who are sent by the court from Cambridge to the truant school as may be allowed under the statutes.

The following is from the report of the committee in charge of the work of the truant officers:—

	1900.	1901.
Whole number of absences investigated	16,189	14,862
Truancy, first offence	583	609
" third " 	131	78
" fifth " 	151	85
Complaints at court	37	24
Children put on probation	9	8
Sentenced by the court	27	18
Visits to mercantile establishments	191	222

On December 1, 1900, there were thirty-five Cambridge boys in the Middlesex county truant school; sixteen have been discharged, one has

died, and eighteen have been sentenced, so that we now have thirty-six at the school. These have cost the city of Cambridge for transportation to and board at the school \$1,818.69, or an average of \$51.96 per pupil, about \$30.00 more than the expense per pupil in our grammar schools.

During the year a card system has been in use for keeping a record of the pupils whose absence and tardiness is reported to the agent by the teachers in accordance with Section 77 of the rules, and also of the nature of the delinquencies and of the action of the agent on the cases so reported.

The first notice has been sent to five hundred fifteen parents or guardians; the second notice to eighty; and a third notice to eight. Forty-four parents have been summoned to the office because of non-attendance of their children. Twenty-four complaints have been made: of truants, nineteen; of absentees, three; and of incorrigibles, two. Two complaints have been made against parents for neglecting to cause their children to attend school. Eighteen boys were sentenced to the truant school; one to the Lyman school on other charges than truancy; two were sent out of the State by parents; and three are on probation. The child of one parent complained of was sent to the truant school, and the case of the other is continued to December 31. The per cent of attendance in the public schools for the school year 1900-1901 is ninety-two and one-tenth per cent, an increase of three-tenths of one per cent.

Twenty-six letters were sent to parents whose children attend parochial schools, and two of the boys sentenced were from these schools.

The school census was taken this year by the truant officers, assisted by five men who were employed in canvassing ninety-one and one-half days. The cost of canvassing and recording the census was \$279.25, besides the services of the truant officers and what the clerks in the office of the committee could do in recording. We still think that the value of the statistics obtained is not equal to the cost. The following is the summary of the school census for 1901:—

Number of children in the city between five and fifteen, boys, 7,560;	
girls, 7,740	15,300
Number in public schools between five and fifteen	12,189
Number in private schools between five and fifteen	2,607
Number not attending school between five and seven	349
Number not attending school between seven and fourteen	78
Number not attending school between fourteen and fifteen	177
Whole number not attending school between five and fifteen	504
Number in the city between five and six	1,646
Number in the city between seven and fourteen, boys, 5,245; girls, 5,439	10,684

On our petition last year, the time for taking the census was extended to November 15, by the legislature. We were not able, however, to

secure a repeal of the law requiring the taking of the census, though this was advocated by the school authorities of other cities and towns besides those of Cambridge.

It appears by the statistics of private schools, obtained by one of the truant officers, that there are twelve private schools in Cambridge, which contain three hundred eighty-nine pupils and receive \$47,500 for tuition, and four parochial schools having three thousand fifty pupils; making three thousand four hundred thirty-nine pupils attending other than the public schools. This is an increase of four hundred thirty-five pupils above the number attending these schools last year. One hundred sixty are in the school on Concord avenue which was opened last fall. One of the greatest difficulties in enforcing the laws requiring school attendance is the laxity in the requirements of these schools, which allow many boys of school age to be on the street neglecting their own privileges and influencing others to stay from school. A more hearty co-operation of the heads of these schools with the agent would prevent much truancy and the necessity for sending some boys to the truant school.

The work of all the truant officers has been satisfactory in spirit and results. It is with deep regret that we record the death of Jeremiah Murphy, who was appointed truant officer June 1, 1899, and died March 31, 1901. He was an excellent officer, conscientious and faithful in all his duties; he performed them in a spirit which won the confidence and esteem of parents and children, as well as of his associates. Thomas F. Riley was appointed in his place April 18, 1901, and is doing excellent work.

Janitors. Section 31 of the city charter provides that "The mayor shall appoint the janitors of schoolhouses, subject to confirmation by the school committee, and may remove them at pleasure for cause assigned; and such janitors shall perform their duties under the direction of the school committee."

Under the direction of the committee on schoolhouses, the agent supervises and directs the work of the janitors, and reports to the committee such matters as seem to need their consideration. The principals of the schools report each month whether or not the work is done in a satisfactory manner.

The heating of the schoolhouses is under the charge of a person appointed for especial fitness for this work, Mr. Edward B. Dale, who has rendered valuable service during the past five years.

The agent reports that except in a few instances the work of the janitors has been done satisfactorily and in a spirit of pride in doing their

Contagious Diseases. In 1894 the board of health, in accordance with the request of the school committee, appointed a physician, whose duty it is to examine all cases of contagious diseases reported, and to direct the exclusion from the schools of all pupils whose presence will, in his opinion, be a menace to the health of others. He reports his action on every case to the secretary of the school committee. The physician issues all certificates authorizing such children to return to school, as provided by Chapter 496, Section II., Acts of 1898.

As a further precaution against contagious diseases, the board of health established, February 26, 1896, a system of medical inspection of children in the schools. The city was divided into six districts, in each of which a physician was appointed to visit the schools in that district. The duties of these physicians as now defined are as follows: to visit the schools subject to their inspection during the morning session of every school day; to examine such children as are indicated to them by the teacher as having complained, or as appearing to be suffering from disease; to inspect such other children or such parts of the building as they deem necessary for the protection of the pupils, examining at least one school each day; to recommend to the principals to send home immediately any pupil whom they may suspect of having any infectious or contagious disease, and also, in cases of nearsightedness or deafness of pupils, to advise the parents to have the eyes or ears of such pupils examined. On the first of each month, the physicians send a report of their work to the board of health.

Once each term it is the duty of the principal of each school to call the attention of the pupils to the following rule:—

No pupil who has visited any apartment in which a person is, or within two weeks has been, sick with smallpox, varioloid, diphtheria, or scarlet fever, shall be allowed to attend school until the expiration of two weeks after such visit.

The agent of the school committee reports that during the year December 1, 1900, to December 1, 1901, the following cases of contagious diseases have been reported by the board of health to the office of the agent, and by the truant officers to the schools:—

Diphtheria, six hundred eighty-five, a decrease of two hundred thirty-nine; membranous croup, fourteen, a decrease of eleven; scarlet fever, ninety-eight, a decrease of eighty-nine; smallpox, five, an increase of five; measles, five hundred thirty-nine, an increase of three hundred ninety-five.

Teachers, Resignations, Appointments. There are now four hundred thirteen teachers in the schools. Thirty-two of this number have been appointed during the year. Eighteen teachers have resigned; one has

died; four have been given leave of absence for rest or for some special reason; and two are absent for study and travel, under the following rule of the school committee:—"Any teacher who has served in the city for ten years, may, on recommendation of the superintendent and vote of the Board, have leave of absence for one year for purposes of study or travel, and may receive one-third of his salary, provided the amount in no case shall exceed five hundred dollars."

Since the adoption in 1896 of this rule, eleven teachers have had leave of absence for a year for purposes of study or travel,—five from the high schools, four from the grammar schools, and two from the primary schools.

Among those who have resigned during the year are four teachers who have served the city for periods varying from twenty-seven to thirty-nine years. Mrs. Abby S. Taylor was appointed a teacher in the Otis primary school September, 1863, having previously taught one year in the same school. She was transferred to the Thorndike grammar school in 1877. Miss Amelia Wright and Miss Laura Wright were teachers in the Willard school. Miss Amelia Wright was appointed April, 1871, and in 1878 was made principal of the school. Miss Laura Wright was appointed May, 1874. These teachers were devoted to their work, and rendered the city most faithful and conscientious service. The fourth teacher was Mr. James S. Barrell. A somewhat extended account of his work will be given later in this report.

In October, Miss Helen E. Andrews, a teacher in the English high school, after an illness of several months, died at her home in Malden. She was a graduate of Boston University, and had taught for several years before she came to Cambridge. She was characterized by faithfulness and skill in her work, and by a cheery spirit among her pupils and her fellow teachers.

A person to be eligible to the position of teacher in a kindergarten must have had a course in a high school, a course in a kindergarten normal school, and must be able to play the piano; to be eligible to a position in a primary or grammar school, he must have had a course in a high school, a course in a normal school, and a year's experience in teaching; to be eligible to a position in a high school, except in the manual training department of the manual training school, he must be a college graduate. Equivalent preparation may be accepted.

When a teacher has been nominated for a position in a kindergarten or primary school, or for a position below that of principal or master in a grammar school or high school, two persons of experience among the teachers who are not connected with the school in which the nominee is to serve, are deputed by the superintendent to visit the teacher nominated

and to examine him at work. Each person so deputed reports in writing to the superintendent; and these reports are kept on file by him, and are open to inspection by members of the Board only. For a nomination to a position in a high school, the superintendent, with the consent of the committee on high schools, may dispense with such examination, or may depute as examiners teachers connected with the school in which the nominee is to serve or persons not in the service of the city.

The committee on teachers considers all nominations made by the superintendent. They confer with the superintendent, consider the reports of the examiners deputed by him, make further inquiry at discretion, and report to the Board for final action.

Any nomination referred to the committee on teachers elapses at the expiration of four months, not counting the summer vacation. A person who has failed of confirmation is not to be nominated to a similar position within two years, except on the approval of this committee.

This committee inquires and reports to the Board in executive session, as to the success of any teacher in the employment of the city, when so requested by any member of the Board or by the superintendent; and no teacher whose success is under inquiry receives the regular increase of salary, except on the recommendation of this committee.

Experience in teaching, whether in or out of the city, may be considered in fixing the salaries of teachers.

Under the direction of the superintendent, teachers may visit other schools to observe the discipline and instruction. They may be required to attend teachers' meetings or courses of instruction in methods of teaching for one hour a week. Such meetings may be held on Saturday mornings during term time or at such other time, not in school hours, as the superintendent may direct. Meetings in addition to those indicated above may be held by the superintendent or may be called by him, on request of directors in special subjects.

SALARIES OF TEACHERS AND SCHOOL OFFICERS.

LATIN SCHOOL AND ENGLISH HIGH SCHOOL.

Head Masters	\$3,000 00
Masters	2,000 00
Master's Assistants	1,200 00
Teachers, first year	700 00
with an annual increase of \$50 until \$950, the maximum, is reached.	
Assistant Teachers, first year	500 00
" " second year and each succeeding year	600 00

RINDGE MANUAL TRAINING SCHOOL.

Head Master	\$3,000 00
Masters' Assistant	1,300 00
Teachers, academic side, first year	700 00
with an annual increase of \$50 until \$1,000, the maximum, is reached.	
Teachers, manual training side, salaries range from \$800 to \$1,500.	

WELLINGTON TRAINING SCHOOL.

Master	\$2,500 00
Supervising Teachers (three) first year	900 00
“ “ second year and each succeeding year	1,000 00
Master's Assistant, first year	800 00
“ “ second year and each succeeding year	900 00
Teachers of the eighth grade	700 00
Teachers of the seventh grade (one year's experience)	450 00
Teachers of the other grades	250 00

GRAMMAR AND PRIMARY SCHOOLS AND KINDERGARTENS.

Masters of grammar schools	\$2,000 00
Sub-masters, first year	1,000 00
with an annual increase of \$100 until \$1,400, the maximum, is reached.	
Masters' Assistants, first year	800 00
“ “ second year and each succeeding year	900 00
Teachers of the ninth grade, first year	750 00
“ “ “ second year and each succeeding year	800 00
Special Teachers in grammar schools, first year	700 00
“ “ “ second year and each succeeding year	750 00
Principals of primary schools, first year	700 00
“ “ “ second year and each succeeding year	750 00
with five dollars additional for each room under her supervision.	
Teachers of grammar and primary schools, and principals of kindergartens, first year	450 00
with an annual increase of \$50 until \$700 is reached.	

SUBSTITUTES.

The pay of a substitute teacher in a high school, who is employed temporarily, is \$2.50 a day; if employed one month or more, it is at the rate of \$500, \$600 or \$700 a year, the sum to be determined by the superintendent, who shall consider the experience of the teacher and the position to be filled, in fixing the sum.

The pay of a teacher who is employed temporarily as a substitute in a grammar school, a primary school, or a kindergarten, is \$1.00 a session; if employed one month or more, it is at the rate of \$450 a year.

SPECIAL TEACHERS AND OFFICERS.

Director of Music	\$2,000 00
Director of Drawing	1,900 00
Assistant Teacher in Drawing	800 00
Director of Nature Study (three-fifths time)	1,000 00
Director of Physical Training	900 00
Director of Sewing	700 00
Teachers of Sewing	600 00
Superintendent of Schools	3,500 00
Supervisor of Primary Schools	1,200 00
Agent of the Board	2,100 00
Truant Officers (four are employed)	1,000 00
Secretary of the School Committee	400 00
Page of the School Committee	25 00
Secretary and Librarian of the Latin School	600 00
Secretary and Librarian of the English High School	600 00
Secretary and Librarian of the Rindge Manual Training School	500 00

The following rules apply to special cases :—

Upon the recommendation of the superintendent and the committee on teachers, the salary of a teacher in a grammar or primary school, or of the principal of a kindergarten, may be increased from \$700 to \$750, provided such teacher has served at least one year. The number of teachers whose salaries may thus be increased is not to exceed one-third of the whole number of teachers in these grades.

Assistant teachers, that is, teachers not in charge of a room, are paid \$450 the first year, \$500 the second, and \$550 the third and each succeeding year; and, in the case of assistants in the kindergartens, \$600 for the fourth and each succeeding year.

Terms, Holidays, and School Hours. The school year is divided into three terms :—

The time for beginning the autumn and spring terms, and for closing the winter and spring terms, is fixed annually at the regular meeting of the committee in February. The autumn term ends December 23. The winter term begins January 2 (or the day after that celebrated as New Year's Day).

The holidays are Saturdays; Thanksgiving day, with the preceding day and the day following; the twenty-second of February; the nineteenth of April; Memorial day; the seventeenth of June; and in addition to these, for the high schools, Commencement day at Harvard University.

The sessions of the high schools begin at 8.30 A. M., and end at 1.30 P. M. The sessions of the Rindge manual training school begin at 8.30 A. M., and end at 2 P. M. These schools have a recess of half an hour in each session.

With the exception of the Russell school, the morning sessions of the grammar and primary schools begin at 9 and end at 11.45. The afternoon sessions begin at 2 and end at 4, except during the months of November, December, and January, when they begin at 1.30 and end at 3.30. The grammar schools have no outdoor recess. In the primary schools the principal may, at her discretion, substitute an outdoor recess for the period at present devoted to physical training. The sessions at the Russell school begin at 8.30 A. M., and end at 1.30 P. M.

The sessions of the kindergartens are from 9 A. M. to 11.50 A. M.

VACATION SCHOOLS.

In 1899 by an act of the legislature the school committee of any city or town was authorized to establish and maintain vacation schools. Soon after the passage of the act the following petition was received by the school committee:—"In view of the demand for vacation schools in Cambridge by both parents and children, and of their excellent results in preventing habits of idleness and lawlessness, and of developing those of industry and self-reliance, we, citizens of Cambridge, respectfully petition the school committee to assume the charge and maintenance of the vacation schools, which have been carried on during the past four summers by and at the expense of private citizens." This petition signed by more than fifty citizens of Cambridge was referred to a special committee. At the meeting of the Board in December, that committee recommended the establishment of vacation schools, and that the city council be requested to make an appropriation of \$2,000 for their maintenance. The request was granted and vacation schools were carried on for six weeks during the summer vacation. These schools were so successful as to leave no doubt as to the desirability of continuing them another year. The committee, therefore, included in its estimate for the maintenance of the schools for 1901, the sum of \$2,000 to be expended for vacation schools. The city council made the appropriation, and vacation schools again became a part of the school system.

Last year sloyd and drawing were taught in only two schools, cooking and dressmaking in only one, making it necessary for many pupils taking these subjects to travel a long distance. In planning for the schools this year, it was decided that instruction in these subjects should be given in a larger number of schools, and that the schools should be located in different parts of the city. Seven schools were opened. Sloyd was taught in five, drawing in four, and dressmaking in four. No additional provision was made for instruction in cooking.

To avoid difficulties that occurred in organizing the schools last year, no child was enrolled until the parent or guardian had given assurance that the attendance should be punctual and regular. This was found necessary because last year a large number of children expressed the wish to attend these schools, but after provision had been made for them, and when it was too late to arrange for others to take their places, changed their minds and did not attend.

The schools began on Monday, the eighth of July, and were in session five days a week for six weeks. The pupils were taught in two divisions, each division receiving two hours' instruction each day. The first division met in the morning at half past eight, and the second at fifteen minutes of eleven. Boys of the sixth, seventh, and eighth grades had sloyd as a part of their work, and the girls sloyd, cooking, or dressmaking. The pupils of the fourth and fifth grades had lessons in reading, drawing, and other studies of an interesting and practical character.

The schools were divided into two groups, and each group was under the charge of one person whose duties were those usually performed by the principal of a school. Mr. Frederick B. Scotton had charge of one group, and Mr. W. Franklin Smith of the other. The whole number of teachers, not including the above mentioned, was nineteen; the average number of pupils, six hundred ninety-four; the cost of the schools, \$1,885.48, making the cost per pupil \$2.72.

The following table shows the location, classification, and attendance of the several schools : —

Schools	Studies	Number Registered	Average Attendance
Rindge Manual Training School	Sloyd and Drawing ...	106	70.0
English High School.....	Sloyd and Drawing ...	107	68.4
English High School.....	Dressmaking	75	59.4
English High School.....	Cooking	64	46.6
Allston School.....	Sloyd and Academic ..	117	65.0
Putnam School.....	Sloyd and Drawing ...	86	73.8
Putnam School.....	Dressmaking.....	41	22.0
Putnam School	Academic	132	80.6
Shepard School.....	Sloyd and Drawing ...	50	33.6
Shepard School.....	Dressmaking	27	16.7
Shepard School.....	Academic.....	87	55.3
Washington School	Academic.....	64	42.0
Webster School.....	Dressmaking.....	45	19.7
Webster School.....	Academic.....	58	41.0
Total .....	.....	1,059	694.0

No description need be given of the work in sloyd, drawing, cooking, or dressmaking. The names indicate the lines of work.

Under the name of academic studies, however, a great variety of exercises might be included. These studies are the ones that occupy the attention of the pupils for the larger part of each day during the school year. How to continue these studies and not have pupils grow weary of them was and is a difficult question.

Vacation schools are not established primarily for the purpose of giving more extended opportunities for an education, but rather to provide

ways by which children who remain in the city during the long summer vacation shall find something to do that will interest them and at the same time profit them. With this end in view, the plan of work for the academic classes included many exercises which made it necessary for the pupils to visit different parts of the city and get information from various sources. The following questions and directions prepared by the teachers and the superintendent include some of the lines of work :—

1. How wide are the streets in the vicinity of the schoolhouse ? How wide are the sidewalks ? What are the dimensions of a brick ? How many bricks will it take to lay a new sidewalk in front of the schoolhouse ?

2. Write the inscriptions you have recently read on historic tablets in Cambridge.

3. Make a list of the different kinds of animals you have seen ; of birds ; of trees ; of flowers.

4. Make a list of the different articles, with the price of each, which can be bought at a hardware store. At a provision store. At a dry goods store. At a grocery store. At a drug store. At a furniture store. At a fish market. At a bakery.

5. What is the market price of the following articles :— Coal by the ton, hard wood by the cord, potatoes by the bushel, rump steak by the pound, kerosene oil by the gallon ?

6. Draw a plan showing the direction of the streets in the vicinity of the schoolhouse, and indicate the location of the schoolhouse and other prominent buildings, giving the names of the streets and the buildings.

7. What towns and cities touch Cambridge or are separated from it by Charles river ?

8. Write in full the names of ten prominent men who live in Cambridge, giving the street on which each lives, and the number of his house.

9. What places in Cambridge would be likely to interest a friend visiting you for the first time ? What places in Boston ? In Massachusetts ?

10. Write the names of ten cities in Massachusetts, with the distance of each from Cambridge.

11. In what different ways do people get from one place to another ? In what different ways is information conveyed ?

12. Have each pupil write his name and the name of the street on which he lives on a slip of paper. Let these slips be passed from pupil to pupil, and have each pupil copy all the names on a half sheet of paper, writing on the first line the name of the school, and on the second the name of the teacher and his own name.

13. Make a list of words, each beginning with a vowel ; with a consonant ; a list of words containing double letters, as *cc*, or *nn*, or *pp*, or *ss*, or *tt*.

14. Make a sentence containing two words requiring the use of capitals ; containing three words requiring the use of capitals ; four ; five.

15. Make a list of ten words containing one syllable ; two syllables ; three syllables ; four syllables. Use ten of these forty words in writing a few lines on any subject.

16. Make a list of words accented on the first syllable ; on the second ; on the third.

17. Write the names of the days of the week and months of the year, putting after each its abbreviation.

18. What are the dimensions of the schoolroom ? Cost of boards for a new floor, no allowance for waste ? How many square feet of blackboard in the room ? How many square yards of plastering in the walls above the blackboards ? How many in the ceiling ? How many windows and doors in the room ? Number of panes of glass in each window ? Size of glass ? Probable cost of each article of furniture ? Describe the pictures in the room.

19. Find the sum of the numbers from 1 to 100 which are divisible by 3 ; by 4 ; by 5 ; by 6 ; by 7 ; by 8 ; by 9.

20. Find the sum of the numbers from 100 to 200 which are divisible by 6 ; by 7 ; by 8 ; by 9.

21. Make a list of articles usually found in a furnished house.

22. Make a list of articles made of iron ; of steel ; of copper ; of tin ; of glass ; of wood ; of silver ; of gold.

23. Make a list of articles usually sold by the yard ; by the pound ; by the quart or gallon ; by the peck or bushel.

24. Each morning let the teacher write on the blackboard ten common words that are frequently misspelled. Have the pupils also write on the blackboard the same ten words, each pupil adding to the list one word on which many often fail.

25. Once a week let each pupil write something about the book he is reading.

26. Twice a week let each pupil recite a few lines committed to memory since the opening of the school, and then write the same on paper.

27. *The Pupils' Reader.* Let each pupil select from the reading book supplied to the school, or from any other source, ten or fifteen lines which to him are especially interesting. Let him copy these on one side of a half sheet of paper under an appropriate title, giving the author's name and his own name. Preserve these selections to be used for a *reading lesson* from time to time.

28. *The Teachers' Reader.* For the purpose of awakening an interest in good books, let the teacher read from day to day from some book of real merit. Ten or fifteen minutes each day can be spent profitably in this way.

29. *Museum Day.* Invite the pupils to bring from their homes with the permission of their parents any articles of special interest, the articles to be taken home at the close of the session, that there be no risk of loss.

30. *Book Day.* Invite the pupils to bring the books which they are reading, and during the session have each pupil write the title of his book with the author's name, and four or five lines which he may select from the book.

31. *Picture Day.* Invite the pupils to bring pictures. These may be of two kinds, those to be shown only for the day, brought from their homes with the permission of their parents, and those collected from magazines to be retained and used as the basis of language lessons.

32. *Visiting Day.* Arrange to hold one session of each class at the Public Library, and one at the Agassiz Museum.

FIFTY YEARS A TEACHER.

In May, Mr. James S. Barrell, master of the Harvard school, sent the following communication to the school committee :—

“To the School Committee of Cambridge :—

If my life be spared until the end of this term I shall have taught for fifty consecutive years — more than half of which have been spent in the schools of Cambridge. I can but feel that this year, which closes a half century in my chosen profession, is the fitting time for me to lay aside its active duties and responsibilities. I therefore respectfully inform you that I shall not be a candidate for re-election. It is impossible for me adequately to express the feelings which arise at the severing of ties which have bound me so long and so closely to the school life of this city. From the day when the school committee invited me to teach in Cambridge to the present meeting of your Board, I have known only happy relations with those connected with the school administration. In 1874 your predecessors placed in my keeping the trust which I shall relinquish at the close of this school year; and I wish to express to your Board my appreciation of the many marks of your confidence and consideration. To our honored superintendent, whose wise counsel and direction have been invaluable, I acknowledge my great indebtedness. For the loyalty and helpfulness of the teachers who have been associated with me during these years I shall ever cherish the most profound gratitude; nor can I forget the aid which has been received in the co-operation of the parents of those committed to my care. For my former pupils, who contributed so much to my happiness, and for those whose faces are now a daily inspiration, I shall retain an abiding affection.

With unfailing interest in the welfare of the Harvard school, and in all that relates to the education of the children of this city, I am,

Respectfully yours,

JAMES S. BARRELL.

Cambridge, May 16, 1901.”

This communication was referred to the committee of the ward in which the Harvard school is located, and at a subsequent meeting of the Board the following resolutions were offered and unanimously adopted :—

“WHEREAS, After fifty years of continuous and successful service as an instructor in public schools, twenty-seven of which have been spent in Cambridge, Mr. James S. Barrell has felt it necessary to relinquish his active duties, and has resigned from the corps of instructors in this city, and

WHEREAS, The school board of Cambridge, feeling his service to be valuable one, and worthy of marked attention,

Resolved, That we recognize in Mr. Barrell, not only a successful teacher, but a man of sterling integrity, high character, conscientious and instating in the discharge of his duties, and ready 'in season and out season' to work for the best interests of those under his charge.

Resolved, That we testify with great pleasure to the successful execution of his work, which has never failed to be eminently satisfactory to the school authorities. We have noted, with pride, his success keeping his schools up to a high standard, and the hearty and enthusiastic support with which his efficient and able corps of teachers have been ready to second and aid him in his efforts. His fine sense of justice, his marked manly gentleness, won the esteem, obedience and love of his scholars.

Resolved, That we sever our official relations with him with deep regret, and wish him abundant prosperity and happiness in the evening of his life.

Resolved, That a copy of these resolutions be sent to Mr. Barrell, and also spread on the records of the doings of the school board of Cambridge."

Mr. Barrell was appointed master of the Putnam school October, 1874, and was transferred to the Harvard school April, 1881. Before coming to Cambridge, he had been a prominent teacher in New Bedford, and in Wiston, Maine.

When it was known that Mr. Barrell was to end his connection with our schools, there was a general feeling that there should be some recognition of the event. The first opportunity came at the time of the graduation exercises, at the close of the school year. This was an occasion for the immediate friends of the school. The hall of the school was filled to overflowing. Fitting words were spoken. Pleasant memories were awakened; and all present realized, perhaps as never before, how useful a teacher's life may be.

The second opportunity came when the Cambridge club, composed of representative men from all parts of Cambridge, invited Mr. Barrell to be its guest. In presenting Mr. Barrell, the president, Prof. Albert Bushnell Hart, spoke of his long and faithful service, and then called upon Ex-Mayor Hall to extend the greetings of the club. Mr. Hall spoke at length upon the teachers' work, and upon the service Mr. Barrell had rendered the city. He closed with these words: "We extend to you our salutations, and I know I express the thought not only of the Cambridge club, but of thousands of our citizens when I say it is our cordial desire that the remaining years of your life, which we trust may be many, will be serene and full of quiet content, and bright with the anticipation

of the reward that awaits those who are faithful unto death. May life's current flow on calm and peaceful as the quiet river as it nears the great ocean, and when it comes may the hour of transition be your hour of translation to higher service!"

Mr. Barrell in his reply said that the Cambridge club's appreciation of his efforts would always be a joy to him, and that it touched him as no other evidence of regard ever touched him before.

A third opportunity was given by the graduates of the Harvard school. A reception was planned, and on this occasion the friends of Mr. Barrell showed their personal interest, not only by their presence and words, but in a more substantial way, reminding him in so doing of the delights of travel and of living under sunny skies during our winter days. His Honor Mayor Dickinson, presided on the occasion. The following from the Cambridge Chronicle is an account of the reception:—"It was a thoroughly representative Cambridge audience. Among the six hundred or more who were present were many of the leading men of the city. Besides those especially interested in school affairs many others came. It was not alone Mr. Barrell, the teacher, who was honored, but Mr. Barrell, the man, Mr. Barrell, the faithful worker, Mr. Barrell, the patriotic citizen. All these points were well brought out in the complimentary speeches which were made, and which all felt were spoken not alone with the lips, but with the heart. Musical selections were rendered during the evening by the high school orchestra, and a solo was given by Mr. Otis Niles."

The speakers represented the state board of education, the city of Cambridge, the school committee, the masters of the schools, the teachers of the Harvard school, the graduates of that school, and Post 30, G. A. R., which presented him with a beautiful silk flag. Other speakers were Rev. Alexander McKenzie, D. D., who was a member of the school board when Mr. Barrell was elected, and Mr. William E. Hatch, superintendent of the schools of New Bedford, where Mr. Barrell taught for thirteen years.

Mr. Barrell responded in part as follows:—"This is a red-letter day to me. It brings me the crowning honor of my life. I feel that you are all my friends, and I have no words to express my gratitude to you. These expressions come to me at a time when I can best appreciate them. I am conscious how far short I have come of my ideals, and I am equally sure that I have conscientiously tried to do my duty. For all these expressions and for this generous gift, you have my most hearty thanks." Mr. Barrell's remarks were followed by an informal reception, and this brought to a close the exercises of the evening.

EXAMINATION OF TEACHERS.

It is now many years since there was a formal examination as to the educational qualifications of applicants for the position of teacher in Cambridge. Educational qualifications are essential, but these alone do not insure successful teaching. The personality of the teacher is an important element. The spirit in which the work is done in its far-reaching influence is even more important than the work itself.

The educational qualifications of a teacher are now determined by the years of preparation he has had, as shown by the schools or college from which he was graduated. A college course is required for an appointment in our high schools, and a high school course and a normal school course or an equivalent, for an appointment in the grammar and primary schools. In addition to this a year's experience in teaching is also required.

The other qualifications of a teacher cannot be fully ascertained except in the schoolroom. In Cambridge, provision has been made by which the work of the teacher shall be seen before a permanent appointment is made. More than one-half of the teachers appointed are from the Wellington training school, where the character of their work is fully known, and frequent appointments are made from among the teachers who as substitutes give promise of success. Other teachers are selected from outside of Cambridge after their schools have been visited.

In these ways the superintendent becomes acquainted with the preparation and work of a teacher before he makes a nomination. Nominations are referred to the committee on teachers, and all teachers are visited by one or more members of this committee. They are also visited by two teachers deputed by the superintendent, and these teachers make a report in writing. These reports and a report from the principal of the school are considered by the committee on teachers before any action is taken.

It is not usual that teachers are called upon by school committees to share in the responsibility of new appointments. The superintendent knows of no other city where the teachers are thus honored. It is one of the "Cambridge Ideas," the thought of the school committee. It is an added safeguard in the appointment of teachers. It is more than this. It is an added influence for better teaching on the part of those who are already in the schools. No teacher can visit the room of another for the purpose of reporting on the character of the work without comparing his own methods of discipline and instruction with those of the teacher visited.

The rule of the committee is as follows :— “When a teacher has been nominated for a position in a kindergarten or primary school, or for a position below that of principal or master in a grammar school or high school, two persons of experience among the teachers who are not connected with the school in which the nominee is to serve, shall be deputed by the superintendent to visit the teacher nominated and to examine him at work. Each person so deputed shall report in writing to the superintendent; and these reports shall be kept on file by him and shall be open to inspection by members of the Board only. For a nomination to a position in a high school, the superintendent, with the consent of the committee on high schools, may dispense with such examination, or may depute as examiners teachers connected with the school in which the nominee is to serve, or persons not in the service of the city.”

That the reports of the teachers may not be too general in character, they are requested to consider, first, the order of the school; second, the teacher's manner towards the pupils; third, the methods of instruction.

A few selections from these reports will show their character and value. In regard to the order of the school one says: “Teacher and pupils understand each other. Spirit of the room is excellent.” Another speaks of the order thus: “Freedom of movement allowed, a wholesome atmosphere, ready response to teacher's least request.”

Of the teacher's manner towards her pupils one used these words: “Attractive, gently insistent, quiet dignity, combined with bright earnestness which evidently impressed pupils.” Another wrote this: “Her manner was that of an accomplished woman.” Another this: “The teacher's manner towards her pupils, though somewhat distant, was not unpleasant.” Another this: “She was very patient towards dull children. She was very firm.”

One speaks of methods of instruction as follows: “Taught subjects—not pages of matter; encouraged independent research; demanded intelligent oral expression; ways varied according to needs of pupils; objective point gained before subject was dismissed.” This teacher added, “The visit was a helpful one to me.”

The whole plan by which teachers find a permanent position in Cambridge has the hearty approval of the superintendent.

FRANCIS COGSWELL,
Superintendent of Public Schools.

IN SCHOOL COMMITTEE, February 20, 1902.

Ordered, That the report of the superintendent as read and outlined by him be accepted and adopted as the annual report of the school committee for 1901, and that the secretary be authorized to append the names of the members thereto.

SANFORD B. HUBBARD,
Secretary.

Members of the School Committee for 1901

DAVID T. DICKINSON, *Chairman ex officio.*

WILLIAM TAGGARD PIPER.	PHILIP M. FITZSIMONS.
*FRANK W. TAUSSIG.	ROBERT WALKER.
CHARLES H. THURSTON.	CHARLES F. WYMAN.
†ROBERT O. FULLER.	MARY E. MITCHELL.
CAROLINE L. EDGERLY.	SHERMAN R. LANCASTER.
GEORGE W. BICKNELL.	CAROLYN P. CHASE.
†J. HENRY RUSSELL.	†SETH N. GAGE.
EDWARD B. MALLEY.	ARTHUR P. STONE.
†WILLIAM J. MANDELL.	

* Resigned Sept. 30, 1901.

† Resigned March 21, 1901.

‡ Elected April 9, 1901.

SELECTIONS FROM THE RECORDS OF THE MEETINGS OF
THE SCHOOL COMMITTEE.

JANUARY 11, 1901.

Organization of the Board. Persons elected for three years :—Ward One, William Taggard Piper; Ward Two, Caroline L. Edgerly; Ward Three, Philip M. Fitzsimons; Ward Four, Charles F. Wyman; Ward Five, Carolyn P. Chase. Persons elected for one year :—Ward Three, Robert Walker; Ward Four, Sherman R. Lancaster; Ward Five, Arthur P. Stone. William Taggard Piper was elected president of the Board; Sanford B. Hubbard, secretary; and Frank T. Evans, page.

Supervision of the Vacation Schools. Ordered, that the committee on evening schools supervise also the vacation schools, and that the provision for the nomination of principals and the appointment of assistants in the evening schools apply so far as possible to the nomination and appointment of principals and assistants in the vacation schools.

Ordered, that the committee on rules be requested to report such amendments to rules as may be necessary to carry into effect the above order.

School Census. Ordered, that His Honor the Mayor be requested to petition the general court that so much of the school laws of 1898 as relates to the school census may be repealed.

FEBRUARY 21, 1901.

Sessions of Rindge Manual Training School. Ordered, that the sessions of the Rindge manual training school close at two o'clock P. M.

Schoolhouse in Ward Two. Ordered, that a communication be sent to the city council requesting that a schoolhouse containing fourteen rooms and a hall be built in Ward Two; and representing that in the opinion of this Board the land at the corner of York and Berkshire streets is the most convenient and desirable location for this building.

Gymnasium for the Rindge Manual Training School. The high school committee reports that a gift for remodelling the basement of the Rindge manual training school and equipping it as a gymnasium has been received through the head master of the school from an anonymous donor. Voted, that the thanks of this Board be tendered to the donor, through the head master, for this gift.

Employment of Harvard or Radcliffe Students. The order in relation to the employment of advanced students of Harvard or Radcliffe, which was laid on the table October 18, 1900, was refused adoption.

MARCH 21, 1901.

First Company of Volunteers. Communication from His Honor the Mayor.

OFFICE OF THE MAYOR,
CAMBRIDGE, March 21, 1901.

To the Honorable the School Committee : —

On April 17, 1861, the first company of volunteers raised in the United States for the suppression of the Rebellion left Cambridge; and on Wednesday, April 17 next, will occur the 40th anniversary of this event. It is the intention of the First Volunteer Citizens' Association, an organization formed in this city in the year 1894, to make a special effort in the way of a celebration this year, with a view to a suitable recognition of this historical event in which Cambridge should take much pride. One of the propositions is to interest the school children by arousing a proper spirit of patriotism, such as will be worthy of the occasion and instructive to the children.

With this end in view, I respectfully recommend that the subject be given due consideration by your honorable Board.

Respectfully,

(Signed)

DAVID T. DICKINSON,
Mayor.

This communication was referred to a special committee which reported to the Board in April.

Salary for Twelve Weeks of Absence. The following was adopted as a substitute for Section 69 of the Rules:—One-third of the salary of a teacher may be paid during twelve weeks of absence, for sufficient cause, in any school year, but not for a longer time, unless upon the written recommendation of the committee on finance, the Board by a two-thirds vote shall so order.

Suspensions may be Settled with the Principal. Ordered, that any case of suspension may be settled with the principal of the school, provided it is done without delay. If thus settled, the principal shall notify the superintendent at once.

Gymnasium in Latin School Closed. Ordered, that the gymnasium in the Latin school be closed to the pupils of the high and Latin schools until further notice.

Recess in Primary Schools. Ordered, that in the primary schools the principal may at her discretion substitute an outdoor recess for the period at present devoted to physical training.

Committee to Revise the Course of Study. Ordered, that a special committee of five members be appointed to consider a rearrangement of the courses of study in the primary and grammar school grades, in accordance with the recommendation of the superintendent in his annual report.

Gifts for the Peabody School. A communication from the master of the Peabody school was received and placed on file. The communication recites that the sum of \$910 has been contributed by friends of the Peabody school for the purchase of pictures and casts to adorn the walls of the school and to purchase a lantern for its use. The pictures and casts have been purchased. [A list of these may be found in the report for 1900.]

Resignation of Members of the Committee. The resignation of Robert O. Fuller, a member of the Board from Ward Two, and that of Seth N. Gage, a member from Ward Five, were received and accepted.

APRIL 9, 1901.

Election of Members of the Committee. In convention with the board of aldermen, J. Henry Russell was elected to be a member of the school committee from Ward Two, in place of Robert O. Fuller, resigned, and William J. Mandell was elected to be a member from Ward Five, in place of Seth N. Gage, resigned.

APRIL 18, 1901.

Gifts from the Washington Elm Chapter of the Daughters of the Revolution. A communication was received from His Honor the Mayor, transmitting a letter from Mrs. Helen M. Burton, Regent of the Washington Elm Chapter of the Daughters of the Revolution, by which that chapter offered to give a framed copy of the "Coat of Arms of the Thirteen Original States," to each primary school in the city, if the gift would be acceptable.

Voted, that the gift be accepted with thanks, and that the secretary communicate this vote to Mrs. Burton.

Nomination of a Truant Officer. The nomination of Thomas F. Riley to be truant officer, which was made by the committee on school-houses at the meeting held April 9, was confirmed.

Director of Sewing. Ordered, that the office of director of sewing be established, and that the salary attached be \$700 per annum.

Cuban Gift. The following recommendation was adopted:—The committee on special studies to which was referred the communication concerning the gift of the Cuban teachers, recommends that His Honor the Mayor be requested to "modify the prescriptions" made by the Cuban

teachers, as he was authorized by them to do, so that the money may be expended for a lantern and slides for use in the Webster school and that these shall be known as the "Cuban Gift."

Middlesex County Teachers' Association. The committee on rules, to which was referred the question of closing the schools on days of the meetings of the Middlesex County Teachers' Association, reports that no action is necessary, inasmuch as, in the opinion of the committee, it is inexpedient to close the schools on the days of these meetings.

A Minute in Regard to the First Company of Volunteers. The following report was placed on file:—The special committee, to which a communication from His Honor the Mayor, relating to the observance of April 17 was referred, reports as follows:—In accordance with a suggestion of His Honor, a minute was prepared, reciting the circumstances of the enlistment and departure of Company C of the Third Massachusetts Regiment, the first company of volunteers for protection of the flag raised in the United States.

This minute was distributed among the pupils and read in all the schools. Patriotic exercises, consisting of music and speaking were held at the high schools, in which Gen. Chamberlain and Capt. Kinnear, survivors of Company C, participated.

MAY 16, 1901.

Resignation of Mr. James S. Barrell. Fifty years a Teacher. Mr. Barrell's letter of resignation and an account of his services as a teacher are given on page 76 of this report.

Tuition of Non-Resident Pupils. The following recommendation of the committee on finance was adopted:—That the rates of tuition to be charged in the several grades be fixed as follows from September 1, 1901:—In the English high and Latin schools, \$80 a year; in the Rindge manual training school, \$150; in the grammar schools, \$30; and in the primary schools and kindergartens, \$20.

Sloyd Outfit for Two Grammar Schools. Ordered, that the committee on supplies be authorized to buy two sloyd outfits, each for twenty pupils, to be used in the grammar schools.

A List of State Wards Requested. Ordered, that a communication be sent to the state board of charity, requesting that a list, made from the record of that Board, of all state wards placed in families in Cambridge may be furnished to the agent of the school committee, said list to show the names and ages of the children and the names and residences of the persons in whose care they are placed. Also requesting that hereafter, whenever such a child is placed under or removed from the care of

a person residing in Cambridge, notice of that fact, giving the data indicated above, may be given to the agent of the school committee.

A List of the Repairs and Alterations Needed in the Schoolhouses. Ordered, that the committee on schoolhouses be requested to furnish the proper official with a list of repairs and alteration which should be made during the summer vacation, in the several schoolhouses.

JUNE 20, 1901.

Cuban Gift. Letter from the Mayor.

OFFICE OF THE MAYOR,
May 22, 1901.

To the School Committee:—

By authority of the vote of gift and in accordance with the recommendation of the school committee, I hereby modify the prescriptions relating to the gift of the Cuban teachers to the schools of Cambridge and prescribe that the money may be expended to purchase a stereopticon lantern and slides for use in the Webster school—the same to be known as the “Cuban Gift.”

Respectfully,

(Signed)

DAVID T. DICKINSON,
Mayor.

Request for a List of the State Wards not Granted. A communication from the state board of charity saying that “It is impracticable to furnish lists of state minor wards of school age to the several cities and towns, etc., as was requested by vote of the school board at the meeting in May, was received and placed on file.

Physical Training. Supervision of the Work. The following was adopted:—That the work of the director of physical training be under the supervision of the committee on special studies.

Pay of Truant Officers at Evening Schools. The following recommendation was adopted:— That the truant officers be paid \$1 per evening when detailed by the agent to attend the evening schools.

Courses of Study. The special committee appointed to consider rearrangements of the courses of study reports that it has been deemed inadvisable to make any radical change in the courses of study at this time. Slight changes in the amount of time to be devoted to certain studies were shown on schedules distributed to the members at the May meeting, and the report of the superintendent on the courses of study is submitted herewith and made a part of this report.

Later in the evening the rearranged courses were adopted as recommended by this committee.

SEPTEMBER 19, 1901.

Adjournment of the Board. No quorum being present, the Board adjourned by adopting the following : — In recognition of the sad death and the burial on this day of our late honored president of the United States, William McKinley, and in token of our high esteem for his character and manhood, as well as an expression of our sympathies for the deeply afflicted ones, it is hereby ordered that this Board do now adjourn until Thursday evening, September 26, 1901.

SEPTEMBER 26, 1901.

Appropriation for Improvements in School Buildings. The following was received and placed on file:—

CITY OF CAMBRIDGE,

In Common Council, July 2, 1901.

Ordered, that an appropriation is hereby made in the sum of thirty thousand dollars (\$30,000.00), for the purpose of putting improved sanitary arrangements into the Gannett, Lassell, Riverside, Tarbell, and Stearns schoolhouses; also for renovating the present boilers at the manual training school, and substituting boilers of sufficient capacity for furnishing power and heat for the entire group of city buildings in the vicinity of said manual training school. Said sum to be provided for by a schoolhouse loan to be hereafter authorized.

(Signed) EDWARD J. BRANDON,
City Clerk.

Pay of Substitutes. Ordered, that the committee on finance be requested to consider what change, if any, should be made in the pay of teachers acting as substitutes.

OCTOBER 17, 1901.

Resignation of a Member of the School Committee. The resignation of Frank W. Taussig, as a member of the school committee from Ward One, dated September 30, was received and accepted.

Resolutions in Regard to the Services of Mr. James S. Barrell. The resolutions in regard to the services of Mr. James S. Barrell may be found on page 76 of this report.

Removal of Snow. Letter to His Honor the Mayor. On recommendation of the committee on schoolhouses, the following was adopted : —

To His Honor Mayor Dickinson : —

The school committee respectfully represents that the removal of snow from the sidewalks in the vicinity of the schoolhouses is a detriment to the janitor service and an element of danger to those buildings which are heated by steam.

Snow must be removed before the time for the pupils to assemble, the very time when the fires require the undivided attention of the janitors in order that the rooms may be properly heated.

The committee therefore respectfully requests that snow may be removed in the vicinity of the schoolhouses as it is removed in the vicinity of other city buildings.

Special Work in the Evening Schools. Ordered, that the committee on evening schools have authority to continue in all evening schools in which the numbers and facilities warrant it, the special work which was authorized for the Allston evening school in December last, and that the committee have authority to employ and fix the salaries of the teachers of these subjects.

NOVEMBER 21, 1901.

Pay of Substitutes. Ordered, that the pay of a teacher who is employed temporarily as a substitute in a kindergarten, a primary school, or a grammar school, shall be \$1 a session; if employed one month or more, it shall be at the rate of \$450 a year.

The pay of a substitute teacher in a high school, who is employed temporarily, shall be \$2.50 a day; if employed one month or more, it shall be at the rate of \$500, \$600, or \$700 a year, the sum to be determined by the superintendent, who shall consider the experience of the teacher and the position to be filled in fixing the sum.

Instructor of Physical Training in the High Schools. Ordered, that the superintendent be authorized to employ an instructor in physical training in the high schools at a salary not exceeding \$700.

Kindergarten in the Peabody School. Voted, that a kindergarten be established in the Peabody school, from December 2, 1901.

Transportation of Pupils. Ordered, that the city council be requested to appropriate \$350 to pay for the transportation to the Russell school of the children living on Concord avenue, Wellington street, and in the vicinity west of the Fitchburg railroad, during the months of December, January, February, March, and April.

Amendment to the City Charter. Voted, that the proposed amendment to the city charter, providing for the election of a school committee of fifteen members, one from each ward and four at large, has the approval of this Board.

Voted, that a copy of the foregoing vote be sent to His Honor the Mayor, and to the city council.

DECEMBER 19, 1901.

The Annual Report. Ordered, that the superintendent of schools be requested to prepare and present to the Board for its consideration the

annual school report; and that he be authorized to select and print in that report such portions of the reports now read as may in his judgment be of public interest. And also to make selections from any further reports of committees that may be made later.

Appointment of an Assistant in Music. The order that an assistant to the director of music be appointed, which was laid on the table February 21, was taken from the table and referred to the school committee of 1902.

Vote of Thanks to the Mayor and to the President of the Board. The following was adopted by an unanimous rising vote: — Voted, that the thanks of this Board be hereby tendered to His Honor Mayor Dickinson, and to the president of the Board, Mr. William Taggard Piper, for the marked ability and courtesy manifested by them during the past year in the performance of the duties of their respective offices in connection with this Board.

36511A

BOOKS OF INTEREST TO TEACHERS.

In 1896 the librarian of the Cambridge Public Library, Mr. William L. R. Gifford, prepared a list of books of special interest to teachers. This list, with additions, has been printed in the school reports from year to year. It has now been revised and is here given with the catalogue number of each book.

EDUCATION.

Aber. Experiment in education	372-Ab3
Acland and Smith. Studies in secondary education	373-Ac6
Arnold. Waymarks for teachers	372-Ar6
Baker. Education and life	370.4-B17
Balfour. Educational systems of Great Britain and Ireland	370.9-B19
Barnett. Common sense in education and teaching	371-B261
Barnett, ed. Teaching and organization	371-B26
Beale, and others. Work and play in girls' schools	371-B36
Bolton. Secondary school system of Germany	379-B63
Briggs. School, college, and character	370.4-B76
Brooks. Normal methods of teaching	371.3-B79
Butler. The meaning of education	370.4-B97
Butler, ed. Education in the United States. 2 v.	370.4-B972
Columbia University. Books on education in the libraries of Columbia University	016.3-C72
Comenius. The great didactic	370-C73
Compayré. History of pedagogy	370.9-C73
——— Lectures on pedagogy	371-C73
Davidson. History of education	370.9-D2811
Dewey. The school and society	370.4-D51
Du Bois. Point of contact in teaching	268-D85
Dutton. Social phases of education in the school and the home	370.4-D95
Eliot. Educational reform	370.4-EL4
Emery. How to enjoy pictures, with a chapter on pictures in the schoolroom	750-Em3
Froebel. Education of man	371.4-F92
Hanus. Educational aims and educational values	370.4-H19
Hapgood. School needlework	646-H21
Hart. Studies in American education	370.4-H25
Herbart. A B C of sense-perception	371.4-H41
——— Outlines of educational doctrine	370-H41
Hinsdale. Horace Mann and the common school revival in the United States	379-H59
Holman. Education	370-H73
Hughes. Froebel's educational laws for all teachers	371.4-H87
——— Mistakes in teaching	371-H87
Huxley. Science and education	370.4-H98
Kemp. History of education	370.9-K32
Landon. School management	370-L23
Laurie. Historical survey of pre-Christian education	370.9-L37
Locke. Some thoughts concerning education	370-L79
Martin. Evolution of Massachusetts public school system	379-M36

a. Bibliography of education	016.3-M75
gne. The education of children	370-M76
a. The educational ideal	370.9-M92
Theory and practice of teaching	371-P14
r. History of education	370.9-P16
Notes of talks on teaching	371-P221
Talks on pedagogics	371-P22
c. Elements of pedagogics	371-P27
ae. Pestalozzi and the foundation of the modern elemen- ary school	371.4-P65
n. Manual of pedagogics	371-P98
Public school system of the United States	379-R36
ranz. Pedagogics as a system	371-R72
Philosophy of education	370.1-R72
The physical nature of the child and how to study it	612-R79
l. German higher schools	379-R91
An ideal school	371-Se1
School hygiene	371.7-Sh2
oad. Gymnastic stories and plays for primary schools	613.7-St7
New methods in education	371.4-T12
Debatable claims: essays on secondary education	370.4-T17
Some observations of a foster parent	370.4-T171
Educational foundations of trade and industry	379-W22
r. Nervous system of the child: its growth and health in education	372-W241
Elements of pedagogy	371-W58
School management	371.5-W52
l, Mrs. L. L. W. Picture study in elementary schools: a manual for teachers. 2 v.	707-W69
Picture study in elementary schools: pupil's book. 2v.	707-W691
l, V. T. Free-hand perspective: for use in manual training schools and colleges	742-W69

KINDERGARTEN.

Kindergarten guide	372.2-B31
Letters to a mother on the philosophy of Froebel	372.2-B621
Symbolic education	372.2-B62
l. Education by development: the second part of the <i>Pedagogics of the kindergarten</i>	372.2-F921
Mottoes and Commentaries of Froebel's Mother play	372.2-F921
Pedagogics of the kindergarten	372.2-F92
Songs and Music of Froebel's Mother play	372.2-F9211
y. Practical suggestions for kindergartners	372.2-G86
an. Kindergarten culture	372.2-H12
on. Study of child-nature	372.2-H24
th. Clay modeling in the schoolroom	372-H54
The child: its nature and relations	372.2-K89
and Rust. Song echoes from child-land, for the home, the school, and the kindergarten	784.3-J42
holtz-Bülow. The child and child-nature	372.2-M33
heim. Development of the child	372-Op5
Wiggin). Children's rights	372.2-R44
The Kindergarten	372.2-R441
and Smith. Froebel's gifts	372.2-R4411
Froebel's occupations	372.2-R4412

_____ Kindergarten principles and practice	372.2-R4413
Smith. Children of the future (Kindergarten)	372.2-Sm6
Walker. Instructive and ornamental paper work	746-W15
_____ Varied occupations in string work	372.2-W151
_____ Varied occupations in weaving	372.2-W15
Warner. Study of children	372-W24

GOVERNMENT.

Clark. Outlines of civics. For use in high schools and colleges	342.73-C54
Hinsdale. American government, national and state. New ed.	342.73-H59
Strong and Schafer. Government of the American people	342.73-St8

HISTORY.

American colonial life, list of books on. In *Cambridge Public Library Bulletin, February, 1902.*

Bacon. Historic pilgrimages in New England	917.41-B131
_____ Walks and rides in the country round about Boston	917.44-B13
Botsford. History of Rome for high schools and academies	937-B65
Brooks. Century book of the American colonies	973.2-B79
_____ Century book of famous Americans	917.3-B79
_____ Century book of the American revolution	973.3-B79
Brown. Beneath old roof trees (American revolution)	973.3-B81
_____ Beside old hearth-stones (American revolution)	973.3-B811
Carpenter. Travels through Asia with the children	915-C22
_____ Travels through North America with the children	917-C22
Channing and Hart. Guide to the study of American history	973-C361
Freese. Historic houses and spots in Cambridge, Mass., and nearby towns	974.4-F87
Gomme. The king's story book: historical stories in illustration of the reigns of English monarchs	G584k
_____ The prince's story book	G584p
_____ The queen's story book	G584q
Hale. Historic Boston and its neighborhood	917.446-H113
Hart. American history told by contemporaries. 4 v.	973-II251
Hinsdale. How to study and teach history	907-H59
Holden. Our country's flag and the flags of foreign countries	929.9-H71
Hulme. Flags of the world	929.9-H87
Jacobs. The story of geographical discovery	910.9-J15
Jenks. Boys' book of explorations	910.9-J42
Johnson. The world's discoverers	910.4-J639
Lee. Source-book of English history	942-L51
Wilder. Study of history by the laboratory method; England	942-W64
Wright. Children's stories of American progress	973-W93

LANGUAGE AND LITERATURE.

Arnold and Kittredge. The mother tongue	425-Ar6
Bates. American literature	810.9-B31
_____ Talks on writing English 2 v	808-B31
Clark and Blanchard. Practical public speaking; a text-book for colleges and secondary schools	808.5-C54
Fitzgerald. Word and phrase	420-F57

ough and Kittredge. Words and their ways in English speech	420-G85
Foundations of rhetoric	808-H551
Principles of rhetoric	808-H55
ale. Teaching the language-arts	407-H59
Book of verses for children	808.1-L96
Studies in American literature; for academies and high schools	810.9-N66
l. Some ill-used words	428-Os51
n. Self-cultivation in English	420-P18
What is good English? and other essays	814-P331
Elementary study of English	807-R64
Punctuation, with chapters on capitalization, etc.	421.9-T22
ll. Literary history of America	810.9-W48
t. Children's stories in American literature, 1660-1860	810.9-W93
- Children's stories in American literature, 1861-1896	810.9-W931

PERIODICALS AND REPORTS.

ional Review. Vols. 1 to date	370.5-Ed81
achusetts. Board of education. Annual reports	379-M38
gical Seminary. Vols. 1 to date	370.5-P34
Review. Vols. 1 to date	370.5-Sch61
States. Bureau of education. Reports	379-Un3

PSYCHOLOGY.

n. Dictionary of philosophy and psychology. Vol. 1.	R
s. Introduction to psychology	150-C12
ve. Memory	154-C67
yré. Elements of psychology	150-C73
and Garlick. Psychology in the schoolroom	150-D52
Memory and its cultivation	154-G82
Psychologic foundations of education	150-II24
Talks to teachers on psychology	150-J23
l. Psychology for teachers	150-M82
rberg. Psychology and life	150-M92
re. The new psychology	150-Scr3
Outlines of psychology	150-Su51
Studies of childhood	150-Su52
Study of the child	150-T21
Psychology of childhood	150-T67

READING.

. Reading: how to teach it	372-Ar61
. Comprehensive subject index to universal prose fiction	016.8-D64
ld. Descriptive list of books for the young	028-G88
an. Mastery of books	028-K63
it and Isles. List of books for girls and women and their	028-L59
. Books worth reading	028-R12
. Reading for the young people. 1890-1896	028-Sa7

SCHOOL BUILDINGS.

Briggs. Modern American school buildings	727-B76
Burrage and Bailey. School sanitation and decoration	371.6-B94

SCIENCE.

Ballard. Three kingdoms: handbook of the Agassiz association	507-B21
Cajori. History of physics in its elementary branches	530.9-C12
Holden. Family of the sun	523-H71
Smith. Teaching of elementary mathematics	510.7-Sm5
Trowbridge. Philip's experiments: or physical science at home	507-T75
Wilson. Nature study in elementary schools: a manual for teachers	507-W69

BOTANY.

Atkinson. Elementary botany	580-At5
Bailey. Botany. (Designed for the pupil.)	580-B15
Coulter. Plant relations	581-C83
——— Plant studies	580-C831
——— Plants: a text-book of botany	580-C83
Creevey. Flowers of field, hill, and swamp	580-C861
——— Recreations in botany	580-C86
Dame and Brooks. Handbook of the trees of New England, etc.	582-D18
Doubleday. Nature's garden	580-D74
Ganong. The teaching botanist	580.7-G15
Gibson. Blossom hosts and insect guests	581.1-G35
Going. Field, forest, and wayside flowers	580-G56
Keeler. Our native trees and how to identify them	582-K24
Lounsberry. Guide to the trees	582-L93
——— Guide to the wild flowers	580-L93
Maddougall. Nature and work of plants	581-M14
Mathews. Familiar flowers of field and garden	580-M42
Newell. Outlines of lessons in botany. 2v.	580-N44
——— A reader in botany. 2v.	580-N441
Newhall. Vines of northeastern America	580-N45
Parsons. How to know the ferns	587.3-P25
——— How to know the wild flowers. New ed.	580-P25
Pratt. Fairyland of flowers	580-P88

GEOGRAPHY AND GEOLOGY.

Archibald. Story of the earth's atmosphere	551.5-Ar2
Chisholm. Europe. Vol. 1. (Stanford's Compendium of geography and travel.)	914-C44
Davis and Snyder. Physical geography	551.4-D29
Frye. The child and nature: geography teaching with sand modelling	910.7-F94
Gee. Short studies in nature knowledge: physiography	551.4-G27
Green. First lessons in modern geology	550-G82
Harrington. About the weather	551.5-H23
Heilprin. The earth and its story: a first book of geology	550-H36
Hopkins. Handbook of the earth: natural methods in geography	910.7-H77
Kelley. Boy mineral collectors	549-K28
Keltie. Applied geography	910-K29

Methods and aids in geography	910.7-K58
Picturesque geographical readers. 2 v.	910.7-K581
Story of a piece of coal	553-M36
Elementary class-book of general geography	910.7-M59
The international geography	910.7-M592
How to study geography	910.7-P22
The new basis of geography	910.7-R24
Comparative geography	551.4-R51
Glaciers of North America	551.3-R91
Volcanoes of North America	551.2-R91
Elementary physical geography	551.4-T17

ZOOLOGY.

1. True tales of the insect	595.7-B14
Story of the fishes	597-B29
In brook and bayou; or life in the still waters	590-B34
Curious homes and their tenants	590-B38
Animal life: introduction to zoology	590-B46
2. Squirrels and other fur-bearers	599-B94
3. Introduction to zoology. [For secondary schools.]	590-D27
Insect life	595.7-F11
4. Mother Nature's children	590-G73
Insect book	595.7-H832
5. Kellogg. Animal life: a first book of zoology	591-J76
Beasts: thumb-nail studies in pets	590-K38
6. Six of these papers have appeared in the <i>Public School Magazine</i>	
Days of wood folk	590.4-L85
Wilderness ways	590.4-L851
Familiar life in field and forest	590-M42
The bee people	595.7-M82
The honey makers	595.7-M821
7. Haswell. Manual of zoology	590-P22
Text-book of zoology, from a biological standpoint	590-Sch4
8. Thompson. Lives of the hunted	T3745L
— Wild animals I have known	590.4-T37
9. MacBride. Zoology: an elementary text-book	590-Sh6
Life histories of American insects	595.7-W41

ZOOLOGY — BIRDS.

Story of the birds	598.2-B29
1. Bird life	598.2-C361
2. Bird neighbors	598.2-B59
— Birds that hunt and are hunted	598.2-D741
3. On the birds' highway	598.2-H831
4. Lind Hoffman. Bird world	598.2-L29
Birds of village and field	598.2-M551
5. First book of birds	598.2-M6111
6. comp. Through the year with birds and poets	811.08-W67
7. List of books on. In <i>Cambridge Public Library Bulletin</i> , March, 1901.	

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Annual Report



OF THE

SCHOOL COMMITTEE



1902



City of Cambridge

MASSACHUSETTS

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City of Cambridge
Massachusetts

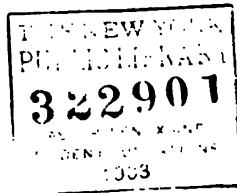
ANNUAL REPORT
OF THE
SCHOOL COMMITTEE

PREPARED BY THE
SUPERINTENDENT OF SCHOOLS

1902

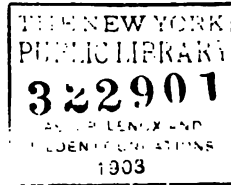


PRINTED FOR THE DEPARTMENT



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REPORT OF THE SCHOOL COMMITTEE FOR 1902

In compliance with Section 45 of the Rules of the School Board, the Superintendent herewith submits his twenty-eighth annual report, it being for the year ending December 31, 1902:—

POPULATION OF CAMBRIDGE.

1875	:	:	:	:	:	47,838	1895	:	:	:	:	:	:	81,643
1885	:	:	:	:	:	59,658	1900	:	:	:	:	:	:	91,886
1902 (estimated)								:	:	:	:	:	:	94,152

SCHOOL CENSUS.

Number of children in the City five years old or more, but less than fifteen.

1885 (taken in May)	:	:	:	10,957	1895 (taken in May)	:	:	12,869
1890 (taken in May)	:	:	:	11,971	1902 (taken in September)	:	:	15,587

SCHOOLS AND CLASS ROOMS.

Latin School	:	:	:	1	Class rooms in use	:	:	:	14
English High School	:	:	:	1	"	"	"	:	11
Manual Training School	:	:	:	1	"	"	"	:	8
Grammar Schools	:	:	:	7	"	"	"	:	93
Primary Schools	:	:	:	19	"	"	"	:	91
Grammar and Primary Schools	:	:	:	9	"	"	"	:	97
Kindergartens	:	:	:	14	"	"	"	:	14
Evening Drawing Schools	:	:	:	2	"	"	"	:	5
Evening High School	:	:	:	1	"	"	"	:	10
Evening Elementary Schools	:	:	:	4	"	"	"	:	21
Whole number of Day Schools	:	:	:					:	52
Number of class rooms for Day Schools	:	:	:					:	328

NUMBER OF TEACHERS IN THE DAY SCHOOLS.

[Special teachers are included in the total.]

December	Latin School	English High School	Manual Training School	Grammar Schools	Primary Schools	Kindergartens	Total
1898	16	23	Became a public school Jan. 1, 1899	161	133	22	364
1899	19	23	14	170	138	24	386
1900	22	24	14	173	142	26	409
1901	22	24	14	177	143	25	413
1902	24	24	15	179	140	25	417

ATTENDANCE AT ALL THE DAY SCHOOLS.

Year	Number of Pupils Registered	Average Number Belonging	Average Daily Attendance	Per cent of Attendance
1898	15,026	12,907	11,978	92.8
1899	15,753	13,255	12,285	92.6
1900	16,203	13,816	12,684	91.8
1901	16,065	14,144	13,021	92.1
1902	16,341	14,244	13,215	92.8

ATTENDANCE AT THE LATIN SCHOOL.

Year	Number of Pupils Registered	Average Number Belonging	Average Daily Attendance	Per cent of Attendance
1898	398	362	343	94.7
1899	398	371	351	94.8
1900	430	404	385	95.2
1901	490	468	449	96.1
1902	488	465	441	95.1

ATTENDANCE AT THE ENGLISH HIGH SCHOOL.

Year	Number of Pupils Registered	Average Number Belonging	Average Daily Attendance	Per cent of Attendance
1898	773	685	662	96.7
1899	794	688	666	96.7
1900	572	514	491	95.6
1901	613	517	490	94.8
1902	577	498	464	93.1

ATTENDANCE AT THE MANUAL TRAINING SCHOOL.

Year	Number of Pupils Registered	Average Number Belonging	Average Daily Attendance	Per cent of Attendance
1900	212	192	183	95.5
1901	217	191	184	96.2
1902	254	242	229	94.4

ATTENDANCE AT THE GRAMMAR SCHOOLS.

Year	Number of Pupils Registered	Average Number Belonging	Average Daily Attendance	Per cent of Attendance
1898	6,570	5,883	5,548	94.3
1899	7,008	6,107	5,738	93.9
1900	7,192	6,295	5,891	93.6
1901	7,044	6,483	6,079	93.8
1902	7,359	6,711	6,316	94.1

ATTENDANCE AT THE PRIMARY SCHOOLS.

Year	Number of Pupils Registered	Average Number Belonging	Average Daily Attendance	Per cent of Attendance
1898	6,505	5,429	4,984	91.8
1899	6,750	5,514	5,071	91.9
1900	6,888	5,788	5,267	91.0
1901	6,815	5,840	5,310	90.9
1902	6,687	5,708	5,249	92.0

ATTENDANCE AT THE KINDERGARTENS.

Year	Number of Pupils Registered	Average Number Belonging	Average Daily Attendance	Per cent of Attendance
1898	780	548	441	80.4
1899	803	575	459	79.9
1900	909	623	467	74.9
1901	886	645	509	78.9
1902	976	620	516	83.2

NUMBER OF PUPILS ADMITTED TO THE LOWEST GRADE OF THE LATIN SCHOOL.

Course, 5 years.

Year	Boys	Average Age	Girls	Average Age
1898	49	14 years 8 months	56	14 years 3 months
1899	58	14 years 5 months	51	14 years 4 months
1900	84	14 years 5 months	70	14 years 5 months
1901	57	14 years 6 months	58	14 years 2 months
1902	60	14 years 5 months	88	14 years 4 months

NUMBER OF PUPILS GRADUATED FROM THE LATIN SCHOOL.

Course, 5 years.

Year	Boys	Average Age	Girls	Average Age
1898	16	18 years 1 month	27	18 years 3 months
1899	16	18 years 3 months	27	18 years 5 months
1900	20	18 years 11 months	19	18 years 11 months
1901	22	18 years 7 months	34	19 years 0 months
1902	23	19 years 1 month	39	18 years 9 months

REPORT OF SCHOOL COMMITTEE.

NUMBER OF PUPILS ADMITTED TO THE LOWEST GRADE OF THE ENGLISH HIGH SCHOOL.

Year	Boys	Average Age	Girls	Average Age
1898	60	14 years 8 months	169	15 years 1 month
1899	61	15 years 0 months	152	15 years 0 months
1900	56	15 years 5 months	170	15 years 1 month
1901	46	14 years 11 months	145	15 years 0 months
1902	41	14 years 8 months	155	15 years 1 month

NUMBER OF PUPILS GRADUATED FROM THE ENGLISH HIGH SCHOOL.

Year	Boys	Average Age	Girls	Average Age
1898	19	18 years 9 months	64	18 years 5 months
1899	14	18 years 4 months	45	18 years 6 months
1900	23	18 years 2 months	45	18 years 8 months
1901	13	18 years 3 months	47	18 years 9 months
1902	25	18 years 7 months	61	18 years 9 months

NUMBER OF PUPILS ADMITTED TO THE LOWEST GRADE OF THE MANUAL TRAINING SCHOOL, WITH THE NUMBER OF GRADUATES.

Year	Admitted	Average Age	Graduated	Average Age
1898	70	15 years 5 months	14	18 years 2 months
1899	92	15 years 3 months	13	18 years 6 months
1900	74	15 years 0 months	16	19 years 0 months
1901	110	15 years 2 months	21	18 years 3 months
1902	127	15 years 2 months	23	19 years 2 months

NUMBER OF PUPILS GRADUATED FROM THE GRAMMAR AND PRIMARY SCHOOLS.

Year	Grammar Schools. Course, 6 yrs.	Average Age	Primary Schools. Course, 3 yrs.	Average Age
1898	518	15 years 0 months	1,395	9 years 8 months
1899	553	15 years 0 months	1,393	9 years 8 months
1900	582	14 years 11 months	1,423	9 years 7 months
1901	565	14 years 11 months	1,467	9 years 7 months
1902	643	14 years 11 months	1,460	9 years 6 months

LENGTH OF TIME IN COMPLETING THE COURSE OF STUDY IN THE
GRAMMAR SCHOOLS.

Year	In 4 years	In 5 years	In 6 years	In 7 years or more
1898	6 per cent	29 per cent	47 per cent	18 per cent
1899	6 per cent	31 per cent	47 per cent	16 per cent
1900	6 per cent	28 per cent	50 per cent	16 per cent
1901	6 per cent	28 per cent	50 per cent	16 per cent
1902	7 per cent	27 per cent	51 per cent	15 per cent

LENGTH OF TIME IN COMPLETING THE COURSE OF STUDY IN THE
PRIMARY SCHOOLS.

Year.	In 2 years	In 2½ years	In 3 years	In 3½ years	In 4 years	In 4½ years or more
1898	4 per cent	2 per cent	59 per cent	6 per cent	20 per cent	9 per cent
1899	3 per cent	4 per cent	58 per cent	7 per cent	20 per cent	8 per cent
1900	2 per cent	2 per cent	59 per cent	6 per cent	22 per cent	9 per cent
1901	3 per cent	1 per cent	61 per cent	5 per cent	20 per cent	10 per cent
1902	3 per cent	2 per cent	62 per cent	4 per cent	20 per cent	9 per cent

NUMBER OF PUPILS IN THE LATIN SCHOOL, DECEMBER, 1902.

Grade	Boys	Girls	Total	Per cent
Fourteenth.....	29	33	62	.127
Thirteenth.....	34	31	65	.133
Twelfth.....	56	45	101	.206
Eleventh.....	55	56	111	.227
Tenth.....	59	91	150	.307
Total.....	233	256	489	

NUMBER OF PUPILS IN THE ENGLISH HIGH SCHOOL, DECEMBER, 1902.

Grade	Boys	Girls	Total	Per cent
Thirteenth.....	22	61	83	.153
Twelfth.....	17	90	107	.198
Eleventh.....	83	95	128	.237
Tenth.....	51	147	198	.366
Specials.....	4	21	25	.046
Total.....	127	414	541	

NUMBER OF PUPILS IN THE MANUAL TRAINING SCHOOL, DECEMBER, 1902.

Grade	Boys		Per cent
Thirteenth.....	48	This school is for boys only. It became a part of the public school system, January 1, 1899.	.177
Twelfth.....	42		.154
Eleventh.....	66		.243
Tenth.....	116		.426
Total.....	272		

NUMBER OF PUPILS IN THE GRAMMAR SCHOOLS, DECEMBER, 1902.

Grade	Boys	Girls	Total	Per cent
Ninth.....	261	334	595	.086
D.....	50	60	110	.016
Eighth.....	363	469	832	.121
C.....	89	72	161	.023
Seventh.....	442	531	973	.141
Sixth.....	526	594	1,120	.163
B.....	96	130	226	.033
Fifth.....	617	606	1,223	.177
A.....	155	195	350	.050
Fourth.....	671	637	1,308	.190
Total.....	3,270	3,628	6,898	

NUMBER OF PUPILS IN THE PRIMARY SCHOOLS, DECEMBER, 1902.

Grade	Boys	Girls	Total	Per cent
Third.....	794	847	1,641	.282
Second.....	904	874	1,778	.305
First.....	1,300	1,106	2,406	.413
Total.....	2,998	2,827	5,825	

NUMBER OF PUPILS AND TEACHERS IN THE KINDERGARTENS.

Year	Boys	Girls	Total	Number of Teachers
1900	337	356	693	26
1901	355	351	706	25
1902	358	364	722	25

NUMBER OF PUPILS BELONGING TO THE EVENING DRAWING SCHOOLS, WITH THE
AVERAGE ATTENDANCE.

1897	1898	1899	1900	1901	1902
209 114	182 99	194 99	184 99	193 97	220 114

NUMBER OF PUPILS BELONGING TO THE EVENING SCHOOLS, WITH THE AVERAGE
ATTENDANCE.

1897	1898	1899	1900	1901	1902
1,225 448	1,165 494	1,158 452	1,248 420	1,286 464	1,367 510

NUMBER OF PUPILS IN THE PRIVATE SCHOOLS IN CAMBRIDGE, INCLUDING THOSE
IN THE PAROCHIAL SCHOOLS.

1897	1898	1899	1900	1901	1902
2,512	2,637	2,713	3,004	3,439	3,451

NUMBER OF AGE AND SCHOOLING CERTIFICATES ISSUED.

1897	1898	1899	1900	1901	1902
229	291	324	380	387	507 *354

* Issued to minors over sixteen years of age, in accordance with the law of 1902.

REPORT OF SCHOOL COMMITTEE.

COST OF INSTRUCTION IN THE DAY SCHOOLS.

[Salaries of teachers, superintendent, supervisor, agent, clerks and truant officers.]

Year	Number of Teachers in December	Average Number of Pupils	Whole Cost	Cost per Pupl
1876	176	7,066	\$164,818 00	\$23 32
1878	173	7,028	136,491 20	19 42
1880	182	7,175	180,371 75	18 17
1882	200	7,898	137,328 55	17 38
1884	216	8,414	152,290 62	18 09
1886	233	9,218	165,277 42	17 92
1888	241	9,756	175,773 80	18 02
1890	263	10,089	190,558 21	18 89
1892	284	10,861	207,144 22	19 07
1894	312	11,166	228,873 48	20 50
1896	337	11,957	245,104 01	20 50
1898	364	12,907	268,182 97	20 78
1900	409	13,816	326,512 34	23 63
1901	413	14,144	336,149 80	23 77
1902	417	14,244	343,787 00	24 14

COST OF THE DAY SCHOOLS.

[This includes the cost of instruction, of text-books and supplies, of incidental expenses, of the care of truants, of the care and repair of schoolhouses, and of the transportation of pupils.]

Year	Number of Teachers in December	Average Number of Pupils	Whole Cost	Cost per Pupl
1876	176	7,066	\$200,894 09	\$28 43
1878	173	7,028	162,437 77	23 11
1880	182	7,175	153,967 56	21 45
1882	200	7,898	166,230 52	21 04
1884	216	8,414	203,234 56	24 15
1886	233	9,218	207,536 46	22 51
1888	241	9,756	225,408 57	23 10
1890	263	10,089	241,980 84	23 98
1892	284	10,861	266,651 02	24 55
1894	312	11,166	287,137 37	25 72
1896	337	11,957	316,090 83	26 44
1898	364	12,907	345,566 30	26 77
1900	409	13,816	417,554 00	30 23
1901	413	14,144	429,208 22	30 35
1902	417	14,244	427,356 71	30 00

COST OF INSTRUCTION IN THE EVENING SCHOOLS.

Year	Elementary	High	Drawing	Total
1897	\$2,086 00	\$1,274 50	\$1,060 00	\$4,420 50
1898	2,324 00	1,439 00	1,091 00	4,854 00
1899	2,570 00	1,499 00	1,206 00	5,275 00
1900	3,375 00	1,874 00	1,430 00	6,679 00
1901	2,777 50	1,551 75	1,205 00	5,534 25
1902	3,218 50	1,682 75	1,298 00	6,199 25

FINANCES.

(For the financial year ending December 1, 1902.)

ction in day schools	\$343,787 00
ction in evening schools	6,199 25
nd repair, day schools	60,993 58
evening schools	1,963 20
ooks and supplies, day schools	18,775 53
ooks and supplies, evening schools	445 41
incidentals	1,554 35
care of truants	1,847 10
flags	99 15
transportation of pupils	300 00
vacation schools	1,016 97
land for schoolhouse, Elm street	11,257 75
new schoolhouse, Ward VIII.	3,275 59
new schoolhouse, Ward III	18,958 66
furniture for new schoolhouse, Ward VIII.	569 50
different buildings on account of the fire at the Allston ecember 12, 1901	1,800 69
	<hr/>
	\$472,643 73
om the above the amount received from the Hopkins 1.56, the tuition of State wards, \$691.00, the tuition of ent pupils, \$6,718.25	8,030 81
st of the schools to the city is	\$464,612 92
e of real and personal estates, May, 1902,	98,139,885 00
nditure for school purposes to the valuation of 1902 . . . . .	.0047

AKEN FROM THE FIFTY-SIXTH ANNUAL REPORT OF THE SECRETARY
OF THE STATE BOARD OF EDUCATION.

wns and cities: towns, 320; cities, 33	353
iblic schools based on the single class room as the unit rison	11,017
pils between seven and fourteen years of age attending schools during the year 1901-1902	299,065
fferent pupils between five and fifteen years of age at he public schools during the year 1901-1902	420,308
pils under five years of age attending the public schools e year 1901-1902	11,273
pils over fifteen years of age attending the public uring the year 1901-1902	42,653
pils of all ages in the public schools during the year	474,234
bership of pupils in all the public schools during the year	415,533
idance in all the public schools during the year 1901-	380,026
attendance based on the average membership	92

Number of persons employed as teachers in the public schools during the year: men, 1,240; women, 12,665	13,905
Number of teachers who have graduated from normal schools	5,451
Average number of months the public schools have been kept for the entire year	9 mos., 6 days
Number of high schools	260
Number of teachers in high schools	1,592
Number of pupils in high schools	40,252
Total expenditure for the support of the public schools	\$11,090,070 05
Total expenditure for new schoolhouses, permanent improvements, and ordinary repairs	8,442,063 33
Entire expenditure	<u>\$15,132,133 38</u>

TABULAR VIEW.

DECEMBER 31, 1902.

Prepared by the Secretary of the School Committee.

Names of Schools	Teachers	Salaries	No. of Pupils Dec. 31, 1902
in.....	William F. Bradbury.....	\$3,000	489
	Theodore P. Adams.....	2,000	
	John I. Phinney.....	2,000	
	Max Benshimol.....	1,400	
	Helen M. Albee.....	950	
	Constance Alexander.....	950	
	Mabel V. Arnold.....	700	
	Mary A. Bachelder.....	950	
	Alice C. Baldwin.....	950	
	Almira W. Bates.....	600	
	Margaret S. Bradbury.....	600	
	Isabel S. Burton.....	950	
	Alice D. Chamberlain.....	700	
	Etta L. Davis.....	750	
	Grace C. Davenport.....	500	
	Caroline Drew.....	950	
	Mary C. Hardy*.....	950	
	Rose Hardwick.....	950	
	Mabel E. Harris.....	950	
	Helen W. Munroe.....	950	
	Louisa P. Parker.....	950	
	Lena G. Perrigo.....	950	
	Lucile C. Reynolds.....	750	
	Ethel V. Sampson.....	750	
	Jennie S. Spring.....	950	
	Annie S. Dodge†.....	600	
lish High.....	Ray Greene Huling.....	3,000	541
	Edwin L. Sargent.....	2,000	
	Joseph A. Coolidge.....	1,600	
	Russell T. Greene, Jr.....	1,500	
	Francis L. Bain.....	850	
	Grace L. Deering.....	1,200	
	Caroline Close.....	950	
	Bertha L. Cogswell.....	950	
	Gertrude H. Crook.....	950	
	Mary L. Cunningham.....	700	
	Esther S. Dodge.....	950	
	Katherine H. James.....	700	
	Jeannie B. Kenrick.....	750	
	Maud A. Lawson.....	950	
	Henrietta E. McIntire.....	950	
	Mary Moulton.....	950	
	Lillian C. Rogers.....	950	
	Caroline A. Sawyer.....	950	
	Emma A. Scudder.....	950	
	Florence W. Smith.....	950	
	Martha R. Smith.....	950	

* On leave of absence for study or travel in accordance with Rule 70.

† Secretary and Librarian.

TABULAR VIEW — Continued.

Names of Schools	Teachers	Salaries	No. of Pupils Dec. 31, 1902
English High	Delia M. Stickney	\$1,200	272
	Annie F. Stratton	750	
	Mabel D. Watson	700	
	Martha L. Babbitt*	600	
Manual Training	Charles H. Morse	3,000	
	Myra I. Ellis	1,300	
	Helen W. Metcalf	950	
	Richard H. Gallagher	1,000	
	Lewis D. Hill	1,300	
	John M. Hussey	1,200	
	James E. MacWhinnie	1,100	
	Joseph M. Norton	1,100	
	Harry E. Rich	700	
	Walter M. Smith	1,050	
	Wilbur B. Sprague	1,000	
	James G. Telfer	1,500	
	Frederick W. Turner	1,500	
	Albert L. Ware	1,200	
	John W. Wood, Jr.	1,400	
	John J. McKenzie*	500	
Agassiz { Grammar	Maria L. Baldwin	1,000	{ 157
Agassiz { Primary	Edith C. Arey	650	
	Addie B. Byam	700	{ 129
	Frances W. Dawson	700	
	Lillian G. Goodwin	650	
	Mary A. Parsons	700	
	Grace C. Stedman	700	
	Jennie L. Upham	700	
Allston { Grammar	Everett L. Getchell	1,850	
Allston { Primary	Ella S. Danforth	900	
	Mary A. Driscoll	450	
	Maude M. Dutton	600	
	Lucy M. Fletcher	700	
	Jennie C. Hardy	600	
	Maude A. Johnston	450	
	Ellen A. Kidder	700	
	Ella M. Leaver	700	
	Catharine A. McLean	700	
	Ethel I. Murch	600	
	Esther D. Paul	700	
	Carrie L. Power	600	
	Mary E. Regan	600	
Boardman, Primary	Henriette E. DeRochemont	750	363
	Elizabeth J. Karcher	790	
	Mabel E. Blake	700	
	Elizabeth M. Born	450	
	Harriette G. Gilmore	500	
	Maud E. Kimball	700	
	Eva G. Oakes	700	
	C. Florence Smith	700	
	Emma G. Wentworth	450	
Cushing, Primary	Maude A. Deehan	760	78
	Margaret E. Sheehan	500	
Dunster, Primary	Susan E. Wyeth	760	41

* Secretary and Librarian.

TABULAR VIEW — Continued.

of Schools	Teachers	Salaries	No. of Pupils Dec. 31, 1902
lar.....	Edward O. Grover.....	\$2,000	502
	Nellie A. Hutchins.....	900	
	Caroline L. Blake.....	800	
	Adelaide G. Bunker.....	700	
	Emma A. Faulkner.....	700	
	Harriet Foster.....	700	
	Lottie L. Griswold.....	700	
	Louise H. Griswold.....	700	
	Ella M. Horne.....	700	
	Ellen J. Hunt.....	700	
	Flora C. Ingraham.....	700	
	Sarah W. Mendell.....	650	
	Mabelle E. Porter.....	700	
	Mary A. Stephenson.....	700	
ary.....	Florence A. Rogers.....	770	194
	Marcia R. Bowman.....	700	
	S. Emma Davis.....	700	
	Carrie H. Smith.....	700	
mary.....	Mary A. Rady.....	775	233
	Annie M. Billings.....	700	
	Mary A. Doran.....	700	
	Katherine A. Gaskill.....	550	
	Margaret F. Sanderson.....	550	
	Gertrude T. Sullivan.....	500	
y.....	Frances E. Pendexter.....	810	503
	Charlotte A. Callahan.....	550	
	Katherine L. Dolan.....	650	
	Mary L. Dolan.....	650	
	Minnie A. Doran.....	700	
	Kate A. Hegarty.....	700	
	Mary A. Hurley.....	700	
	Katherine L. McElroy.....	700	
	Julia G. McHugh.....	700	
	Mary E. Mulloney.....	700	
	Anastasia Peters.....	700	
	Nora E. Reardon.....	550	
mmar.....	Thomas W. Davis.....	2,000	770
	Arthur B. Webber.....	1,400	
	Ada H. Wellington.....	900	
	Margaret B. Wellington.....	800	
	Harriette F. Sawin.....	750	
	Annie M. Street.....	750	
	Addie L. Bartlett.....	700	
	Winifred V. Cobb.....	700	
	Nellie A. Coburn.....	700	
	Frances Fabyan.....	700	
	Margaret M. Fearn.....	700	
	E-tella J. French.....	700	
	Annie B. Lowell.....	700	
	Josephine MacDonald.....	600	
	Bernice E. Mayhew.....	500	
	Waitie M. Nash.....	600	
	Laura L. Parmenter.....	700	
	Louise C. Patterson*.....	700	

On leave of absence for study or travel in accordance with Rule 70.

TABULAR VIEW — Continued.

Names of Schools	Teachers	Salaries	No. of Pupils Dec. 31, 1902
Harvard, Grammar.....	Annie I. Prince.....	\$550	
	Elizabeth L. Setchell.	700	
	Hortense O. Young.....	700	
Holmes, Primary.....	Lucy C. Wyeth.....	760	92
	Marianne M. Webb.....	700	
Lassell, Primary.....	Frances E. Whoriskey.....	770	169
	Rose V. Collier.....	700	
	Elizabeth B. Gahm.....	700	
Lowell, Primary.....	Mary E. Whoriskey.....	700	
	Eusebia A. Minard.....	765	69
	Agnes J. McElroy.....	700	
Merrill, Primary.....	Julia M. Davis.....	550	202
	Louise W. Harris.....	700	
	Daisy M. Haynes.....	550	
	Marion B. Magwire.....	700	
	Nellie S. Walker.....	650	
Morse { Grammar.....	Mary A. Townsend.....	2,000	{ 500
{ Primary.....	Mary E. Towle.....	900	{ 204
	Marcia E. Riddon.....	750	
	Elizabeth J. Baldwin.....	700	
	Christina R. Denyven.....	700	
	Ida M. Holden.....	550	
	Ida J. Holmes.....	700	
	Florence E. Unter.....	650	
	Grace H. Manter.....	700	
	Alice E. May.....	700	
	Helen Montague.....	550	
	Anna A. O'Connell.....	600	
	Ella M. Pinkham.....	700	
	Elizabeth H. Richards.....	700	
	Emilie F. Richardson.....	700	
	Mary E. Sawyer.....	700	
	Lucy M. Soule.....	700	
	Mary E. Warren.....	700	
Otis, Primary.....	Ellen N. Leighton.....	785	294
	Frances Allen.....	700	
	Anna E. Callahan.....	700	
	Josephine M. Doherty.....	700	
	Luella M. Marsh.....	700	
	Anna N. Sullivan.....	500	
	Margaret Sullivan.....	700	
	Ellen C. Walsh.....	700	
Parker, Primary.....	Mary A. Knowles.....	780	280
	Charlotte E. Clapp.....	700	
	Butella E. L. Conland.....	700	
	Mattie S. Cutting.....	700	
	Harriet R. Harrington.....	700	
	Agnes Marchant.....	700	
Peabody { Grammar.....	Frederick S. Cutter.....	2,000	{ 402
{ Primary.....	Charlotte A. Ewell.....	900	{ 152
	Mary H. Ellis.....	750	
	Susan C. Allison.....	700	
	Anna F. Bellows.....	700	
	Katherine L. Carr.....	600	
	Helen E. Hazard.....	700	

TABULAR VIEW — Continued.

Names of Schools	Teachers	Salaries	No. of Pupils Dec. 31, 1902
ody { Grammar.....	M. Lizzie Hewitt	\$700	646
Primary.....	Martha A. Parker.....	550	
	Effie A. Perkins.....	700	
	Maude R. Pullen.....	700	
	Dora Trefethen.....	600	
	Alice M. Tufts	700	
am, Grammar.....	Frederick B. Thompson	1,850	
	Eliza M. Hussey	900	
	Grace Clark	750	
	Mary A. Carmichael.....	700	
	Anna L. P. Collins.....	700	
	Sarah M. Grieves.....	700	
	Hattie L. Jewell	700	
	Annie B. Josselyn.....	700	
	Mary A. Macklin	450	
	Marcia T. Marple	700	
	Katharine I. Nicolson	650	159
	Margaret F. O'Keefe.....	550	
	Eliza S. Paddock.....	750	
	Katherine E. Smyth.....	550	
	Annie A. Trelegan.....	700	
	Minnie F. Wilson.....	550	
, Primary	Margaret T. Burke.....	770	
	Elizabeth G. Nelligan.....	600	
	Julia A. Robinson	700	
	Clara W. Ruggli.....	550	155
side, Primary.....	Elizabeth A. Tower	770	
	Amanda M. Alger.....	700	
	Mary A. Burke.....	700	
	Hattie A. Thayer	550	545
rts, Grammar	W. Mortimer MacVicar.....	2,000	
	Sara A. Bailey	900	
	Emily R. Pitkin.....	750	
	Susan M. Adams	700	
	Mary Blair	700	
	Elizabeth M. Breslin.....	500	
	Mary M. Brigham.....	700	
	Susan L. Keniston.....	700	
	Evelyn B. Kenney.....	700	
	Ada M. Litchfield.....	700	
	Nina M. Marsh	700	
	Clara E. Phinney	450	
	Ida G. Smith	700	
	Caroline M. Williams.....	700	
	Arthur C. Wadsworth.....	2,000	
ell { Grammar	Alice G. Teele	900	{ 333 119
Primary	Carrie J. Allison.....	700	
	Fannie P. Browning.....	700	
	Ella E. Buttrick	700	
	Mary A. Connelly	700	
	Anna M. Lyons	450	
	M. Ursula Magrath.....	550	
	H. Maud McLean.....	700	
	Gertrude E. Russell	700	
	Loretta L. Shaw.....	700	

TABULAR VIEW — Continued.

Names of Schools	Teachers	Salaries	No. of Pupils Dec. 31, 1902
Sargent, Primary	Mary A. Brown	\$770	186
	Christina D. Barbey	700	
	Elmira F. Hall	700	
	Marion Prescott	650	
Shepard { Grammar	Evelyn J. Locke	900	{ 185
Shepard { Primary	Mary E. Bassett	700	{ 122
	Corabelle H. Bates	550	
	Mary F. Calhane	700	
	Florence M. Dudley	700	
	Alice M. Gage	700	
	Mary M. Gilman	700	
	Theresa H. Mahoney	650	
Sleeper { Grammar	A. Estelle Ingraham	900	{ 129
Sleeper { Primary	Emily Bissell	700	{ 192
	Evelyn M. Dormer	700	
	Fannie G. Flanders	700	
	Elizabeth O. Haynes	550	
	Melissa M. Lloyd	700	
	Margaret E. Quinn	500	
	Blanche C. Trefethen	700	
Stearns, Primary	Fannie E. Higgins	770	182
	Maria J. Bacon	700	
	Ellen A. Cheney	700	
	Eva A. Taylor	700	
Tarbell, Primary	Emma J. Young	770	188
	Florence J. Alley	700	
	Carrie P. Pierce	700	
	Anna H. Welsh	500	
Taylor { Grammar	Ella R. Avery	900	{ 156
Taylor { Primary	Mary A. Boland	700	{ 249
	Bridget T. Boyle	700	
	Lillian M. Canty	700	
	Lillian W. Davis	450	
	Josephine Day	700	
	Cecelia F. Leahy	700	
	Maud J. Paget	600	
	Agnes M. Sheridan	700	
	Mabelle S. Welsh	550	
Thorndike, Grammar	Ruel H. Fletcher	2,000	544
	Harriet A. Townsend	900	
	Laura A. Westcott	750	
	Flora E. Cooter	450	
	Jennie W. Cronin	450	
	Grace W. Fletcher	700	
	Mary A. Grant	650	
	Harriet M. Hanson	700	
	Emma A. Hopkins	700	
	Lillian H. Kenney	500	
	Mary E. Nason	700	
	Ellen M. Plympton	700	
	Susan L. Senter	700	
	Lydia A. Whitchee	800	
Washington, Grammar	John W. Freese	2,000	427
	Blanche E. Townsend	900	
	Alice P. Fay	750	

TABULAR VIEW — Continued.

Names of Schools	Teachers	Salaries	No. of Pupils Dec. 31, 1902
ington, Grammar	Eldora J. Clark	\$700	745
	Mary L. Ellis	700	
	Heien G. Fulton	600	
	Winifred L. Kinsley	700	
	Emma Penney	700	
	Margaret J. Penney	700	
	Bessie H. Pike	700	
	Hattie Shepherd	700	
	Mary E. Stiles	700	
ter, Grammar	John D. Billings	2,000	
	George L. Farley	1,200	
	Alice C. Phinney	900	
	Martha N. Hanson	800	
	Ada A. Billings	750	
	Mabel T. Ashley	700	
	Charlotte M. Chase	700	
	Fanny F. Curtis	700	
	Susan I. Downs	700	{ 519 410
	Gertrude B. Duffy	550	
	Josephine Hills	700	
	Gertrude I. Johnson	700	
	Minnie V. Reid	700	
	Harriette E. Shepard	700	
	Olive L. Slater	700	
	Maud A. Sumner	650	
	Ellen F. Watson	700	
	Katherine L. Wight	600	
ington { Grammar	Herbert H. Bates	2,500	{ 519 410
Primary	Sarah J. Gunnison	1,000	
	Margaret Kidd	1,000	
	Mary J. Vinton	1,000	
	Carrie H. Stevens	900	
	Emma M. Taylor	700	
	Training Class	8,556	
ed, Primary	Katharine E. Hayes	780	584
	Agalena Aldrich	500	
	Sally N. Chamberlin	700	
	Elizabeth M. Crowley	500	
	M. Elizabeth Evans	700	
	Ella F. Gulliver	700	
	Julia S. Gushee	700	
	Mary E. G. Harrington	700	
	Katherine M. Lowell	700	
	Mary A. O'Hara	600	
	Belle Menard	700	245
	Eliza D. Watson	700	
	Grace R. Woodward	700	
an, Primary	M. Carrie Dickman	780	
	Addie M. Bettinson	700	
	Mary H. Brooks	700	
	Georgianna P. Dutcher	700	
	Genevieve S. Flint	700	
	Agnes Ross Smith	550	
er- { Boardman	Mary B. Pratt	700	54
ns {	Hattie P. Russell	550	

TABULAR VIEW — Concluded.

Names of Schools		Teachers	Salaries	No. of Pupls Dec. 31, 1902
Kinder- gartens	Corlett	Sarah S. Wells.....	\$700	46
		Annie M. Dodd.....	600	
	Dunster.....	Clara A. Hall	700	28
	Gannett.....	Carrie E. Shepherd.....	700	56
		Marion L. Akerman.....	550	
	Gore	Selma E. Berthold.....	700	61
		Jennie S. Clough	600	
	Lowell	Melinda Gates.....	700	36
	Merrill	Caroline A. Leighton	700	60
		Gretchen K. Weinschenk	550	
	Peabody	Julia L. Frame	700	39
	Riverside.....	Edith L. Lesley	700	56
		Olive M. Lesley.....	600	
	Shaw	Harriette E. Ryan*.....	700	53
		Leonice S. Morse.....	650	
		Della E. Cabot	450	
	Sleeper.....	Mabel S. Adams.....	700	56
		Caroline E. Simpson.....	550	
	Taylor.....	Mary F. Leland.....	700	65
		Bertha V. Jameson.....	550	
	Wellington.....	Gertrude M. Gove.....	700	54
		Florence Rice.....	600	
	Willard	Alice V. McIntire	700	58
		Anna M. Gage.....	450	

* On leave of absence for study or travel in accordance with Rule 70.

TEACHERS OF SEWING — Agnes Gordon			\$700
Alice H. Nay			600
Nancy T. Dawe			600
DIRECTOR OF MUSIC — Frederick Elmer Chapman			2,000
ASSISTANT IN MUSIC — Georgia E. Martin			800
DIRECTOR OF DRAWING — Peter Roos			1,900
ASSISTANT IN DRAWING — Lucia N. Jennison			800
DIRECTOR OF NATURE STUDY — Sarah E. Brassill			1,000
DIRECTOR OF PHYSICAL TRAINING — Sara Eleanor Boudren			900
INSTRUCTOR OF PHYSICAL TRAINING IN THE HIGH SCHOOLS — Bessie W. Howard			700
SUPERINTENDENT — Francis Cogswell			3,500
SUPERVISOR OF PRIMARY SCHOOLS — Mary A. Lewis			1,200
AGENT — Sanford B. Hubbard			2,100
CLERKS — Althea B. Frost			750
Myrta E. Smith			600
PORTER — John Lemon			600
TRUANT OFFICERS — Lucian S. Cabot			1,000
John Carmichael			1,000
William H. Porter			1,000
Thomas F. Riley			900

SUMMARY.

Number of pupils in Latin School	489
Number of pupils in English High School	541
Number of pupils in Rindge Manual Training School	272
Number of pupils in Grammar Schools	6,898
Number of pupils in Primary Schools	5,825
Number of pupils in Kindergartens	722

Total	14,747
Number of pupils belonging to the public schools, December 31, 1901	14,494

Increase of pupils, 1902	253
Increase of pupils, 1901	62
Increase of pupils, 1900	332
Increase of pupils, 1899	314
Increase of pupils, 1898	476
Increase of pupils, 1897	422
Increase of pupils, 1896	714
Increase of pupils, 1895	250
Increase of pupils, 1894	278
Increase of pupils, 1893	135
Increase of pupils, 1892	210
Average annual increase of pupils from 1892 to 1902 (inclusive)	313

COST OF INSTRUCTION.

Schools and Officers	Cost of Instruction	Average Number of Pupils	* Cost per Pupil
Latin School.....	\$25,236 00	465	\$54 27
English High School.....	26,747 51	498	53 71
Manual Training School.....	19,108 67	242	78 96
Training School (Teachers).....	15,656 42	887	17 65
Grammar Schools (except Training School).....	127,747 99	6,227	20 52
Primary Schools (except Training School).....	89,927 49	5,305	16 95
Kindergartens.....	16,227 17	620	26 17
Teachers of Sewing.....	1,900 00	....	....
Directors of Music.....	2,240 00	....	....
Directors of Drawing.....	2,700 00	....	....
Director of Nature Study.....	1,000 00	....	....
Directors of Physical Training.....	1,110 00	....	....
Substitute Teachers.....	1,565 75	....	....
Superintendent.....	3,500 00	....	....
Supervisor of Primary Schools.....	1,200 00	....	....
Agent.....	2,100 00	....	....
Clerks.....	1,350 00	....	....
Trauant Officers.....	3,870 00	....	....
Porter.....	600 00	....	....
Total.....	\$343,787 00	14,244	\$24 14
Cost of instruction in Evening High School			\$1,682 75
Cost of instruction in Evening Elementary Schools			3,218 50
Cost of instruction in Evening Drawing Schools			†1,298 00
Total			\$6,199 25

* Until 1901 it has been the practice to use the number belonging to the schools in December in getting these averages. This year and last the average number belonging during the school year has been used. This changes the averages, but seems the proper basis on which to compute them.

† The Director of Drawing is principal of these schools. No part of his salary has been included in this amount.

REMARKS ON THE STATISTICS.

The number of pupils registered during the year ending June, 1902, is 16,341; the average number belonging, 14,244; the average daily attendance, 13,215. In the per cent of attendance there has been an increase of seven-tenths of one per cent over last year. The number belonging to the schools in December, 1901, was 14,494; in December, 1902, 14,747, an increase of 253. The entire cost of the day schools, which includes the cost of instruction, of text-books and supplies, of incidental expenses, of the care of truants, of the care and repair of school-houses, and of the transportation of pupils, is less than that of last year by \$1,851.51. In the cost of instruction there has been an increase of \$7,637.20.

While Cambridge expends a large amount for her schools, there are *two hundred eighteen* towns and cities in the State which make a larger expenditure in proportion to their wealth. In a list of the thirty-three cities, arranged numerically according to the percentage of their taxable property appropriated to the support of public schools for the year 1901-1902, Cambridge is the *twenty-fifth*. In a list of the towns and cities of the State, arranged numerically according to the sum appropriated for each child in the average membership of the public schools, Cambridge is the *twenty-eighth*.

These statistics relating to the schools of the State are taken from the sixty-sixth annual report of the secretary of the Board of Education.

TEXT-BOOKS AND SUPPLIES.

At a meeting of the Board in December the committee on supplies submitted a detailed report of the expenditures of that committee for the year. The report is as follows:—

In accordance with Section 30 of the Rules of the School Board, the Committee on Supplies submits its eighteenth annual report for the year ending July 1, 1902:—	
Stock on hand July 1, 1901	\$5,281 81
Purchases and expenditures to July 1, 1902	20,145 21
	<hr/>
	\$25,377 02
Cash sales and damages	\$440 36
Delivered to schools, officers, etc.	20,223 69
	<hr/>
	20,664 05
	<hr/>
Stock on hand July 1, 1902	<u>\$4,712 97</u>

The purchases and expenditures have been : —

For text-books	\$7,789 76	
Desk and reference books	97 47	
Copy books	679 96	
Apparatus and furnishings	2,721 23	
Printing, \$174.50; expressage and labor, \$308.36	482 86	
Repairing books, \$398.53; diplomas, \$238.62	637 15	
Tuning pianos	18 50	
Miscellaneous supplies, etc.	7,507 60	
		\$19,934 53
Less the value of exchanges		65 49
		<u>\$19,869 04</u>

The net cost of text-books and supplies is as follows : —

Stock on hand July 1, 1901	\$5,231 81	
Bills paid by City Treasurer	19,869 04	
		\$25,100 85
Less stock on hand July 1, 1902	\$4,712 97	
Cash paid to City Treasurer, sales and damages	440 36	
		<u>5,153 33</u>
We have, net cost of all schools and officers		<u>\$19,947 52</u>

or an average cost per pupil of \$1.40. The average cost per pupil per annum for eighteen years has been \$1.263.

The annual cost per pupil for text-books and supplies since the introduction of the free text-book law is as follows :—

Year	Cost per Pupl	Year	Cost per Pupl	Year	Cost per Pupl
1885	\$1.880	1891	\$1.248	1897	\$1.094
1886	1.170	1892	1.149	1898	1.268
1887	1.051	1893	1.109	1899	1.225
1888	1.068	1894	1.243	1900	1.740
1889	0.960	1895	1.152	1901	1.203*
1890	1.334	1896	1.436	1902	1.400*

* Until 1901 it has been the practice to use the number belonging to the schools in December in getting these averages. This year and last the average number belonging during the school year has been used. This changes the averages, but seems the proper basis on which to compute them.

	Net Expenses	Cost per Pupil				
		*1902	*1901	1900	1899	1898
Latin School.....	\$1,855 50	\$3.990	\$3.935	\$6.804	\$3.245	\$3.594
English High School.....	1,813 44	3.641	4 236	4.642	3.888	3.535
Manual Training School.....	2,798 67	11.564	11.707	13.515	.....	.....
Training School, teachers	627 09	.707	.704	.....	.....	.....
Grammar Schools.....	4,789 84	1.152	1.068	1.747	1.476	.977
Mixed Schools.....	3,744 22	1.140	.933	1.573	1.001	1.532
Primary Schools.....	2,158 22	.528	.431	.396	.425	.540
Kindergartens.....	390 84	.630	.329	.692	.303	1.003
Evening Schools.....	445 41	.....	.....	.....	.....	.....
Special Teachers.....	81 83	.....	.....	.....	.....	.....
Officers of Board.....	209 20	.....	.....	.....	.....	.....
Miscellaneous expenses (not chargeable to any grade).....	1,054 97	.....	.....	.....	.....	.....
	\$19,969 23	.....	.....	.....	.....	.....
Less profit on sales.....	21 71	.....	.....	.....	.....	.....
	\$19,947 52	\$1.400	\$1.203	\$1.740	\$1.225	\$1.268

There will be naturally some fluctuation from year to year in the average cost of text-books and supplies, as may be noticed in the preceding table.

A piano, which has been needed at the Latin school since the new building was occupied, was bought for \$400, and another to replace a very old one at the Webster school for \$325.

Five new lathes have been bought for the Rindge manual training school at a cost, including the expense of installing the same, of \$500. Repairs on the apparatus in the blacksmith shop have also been made. To replace books and supplies destroyed by fire at the Allston school cost \$650, and two new sloyd outfits have been bought at a cost of \$632.

The regular expenditures for text-books and supplies for the current financial year, estimated on the number of pupils in the schools December 1, 1902, will be \$18,625.46.

Additional equipment will be needed at the Rindge manual training school to provide for the increased number of pupils, and for this a special appropriation of \$2,000 is asked.

By a law passed in 1895 the school committee was required to provide a flagstaff and a flag for every school building, and to have the flag displayed when the weather was suitable. To repair and replace the flags and flagstaffs entails each year a considerable outlay; but it is an

* Until 1901 it has been the practice to use the number belonging to the schools in December in getting these averages. This year and last the average number belonging during the school year has been used. This changes the averages, but seems the proper basis on which to compute them.

expenditure required by statute, and is not at the discretion of the school committee. Last year \$200 was asked for, but only \$100 was appropriated, and this sum was exhausted early in the year. For the coming year \$200 at least will be required.

CHANGES IN TEXT-BOOKS.

The following is the rule relating to changes in text-books: "All proposals for changes in text-books shall be made to the superintendent. If believed by him to deserve consideration, he shall appoint two persons, one of whom shall be a teacher in the service of the city, and they and the superintendent shall examine and each make a written report on the proposed books. These reports shall be kept on file in the office of the superintendent, and shall be open to inspection by members of the Board only. Changes so considered may be recommended to the Board for adoption, when they shall be referred to the committee on text-books."

Under this rule the following text-books have been adopted by the Board during the year 1902:—

For use in the Latin school, Botsford's History of Rome; Cauer's Odyssey.

For use in the English high school, Adams's Commercial Geography; Siedel's Leberecht Hühnchen.

For use in the grammar or primary schools, Brown's Stories of Woods and Fields; the New McGuffey Readers; Shaylor's Vertical Round Hand Writing Books.

For use in all the schools, the Standard Dictionaries to be used in addition to those already authorized.

SCHOOL ACCOMMODATIONS.

The following is from the report of the committee on school-houses:—

In compliance with Section 30 of the Rules of the School Board, the Committee on Schoolhouses respectfully submits the following:—

During the year the building for the accommodation of the Washington grammar school and for the large increase in the Rindge manual training school has been completed. It was occupied in part by pupils of the Rindge manual training school in September, and by the pupils of the Washington school in October. About sixty of the pupils of the Washington school were transferred to the Peabody and Russell schools.

There has been expended on this building to date \$62,294.70, with a balance of \$23,555.96 of the appropriation unexpended.

This schoolhouse is a notable addition to the group of buildings of which the public library is the centre. The exterior is ornamental, and the interior arrangement is ample and convenient. It is heated by steam from the boilers in the Rindge manual training school.

On account of the lack of funds it was thought necessary to put renovated furniture from the old building into many of the rooms, so that much of the furniture is on castings not adjustable which should be replaced by adjustable irons as soon as possible.

Last year land was purchased on Willow street for the site of a schoolhouse at a cost of \$9,500. Plans were procured and the erection of the building was begun in June, with the expectation that it would be completed by July 1, 1903.

It has been decided not to rebuild the Allston schoolhouse, and land costing \$11,257.75 has been purchased on Elm street for a new building, but no further progress has been made. The schools in the districts which these buildings are to accommodate are so crowded that it is impossible to do the most efficient work. Increased accommodations are also required in Wards Six and Seven.

Better ventilation and drainage are needed for several of the schoolhouses; more furniture, especially at the Morse school, should be supplied with adjustable irons; and the whole system of plumbing at the Rindge manual training school should be removed and made modern.

The following table shows the items of expenditures for the care and repair of schoolhouses:—

Janitor service	\$34,106 63
Janitors' supplies	1,724 23
Fuel	11,377 87
Gas and electric lighting	2,082 88
Furnishings	1,628 94
Furniture for new schoolhouse, Ward VIII.	569 50
Ordinary repairs	12,036 23
Expenses on different buildings on account of the fire at the Allston school	1,600 69
Total	\$65,126 97

Section 31 of the city charter provides that "The mayor shall appoint the janitors of schoolhouses, subject to confirmation by the school committee, and may remove them at pleasure for cause assigned; and such janitors shall perform their duties under the direction of the school committee."

Under the direction of the committee on schoolhouses, the agent supervises and directs the work of the janitors, and reports to the committee such matters as seem to need consideration. The principals of the schools report each month whether or not the work is done in a satisfactory manner.

The following is from the report of the committee on schoolhouses :—

The work of the janitors of schoolhouses has been done in a more satisfactory manner on the whole than in years past, many of the janitors taking pride in doing their work well and so raising it above drudgery.

The heating apparatus, and in general the heating of the buildings, has been under the supervision of Edward B. Dale, who has been faithful and efficient in this work ; and very few rooms have been closed because of lack of heat.

The only change in the force is the appointment, September 11, of John S. Leamer as janitor of the new Washington schoolhouse.

PLAN OF THE SCHOOL REPORT.

For many years the subject matter and arrangement of the statistical part of the school reports have remained essentially unchanged. This has been done because statistics become increasingly valuable when continued on the same plan from year to year. For several years the reports have also contained certain definite information relating to the organization and conduct of the schools, such as is frequently sought by parents and persons interested in school affairs. This has enabled the superintendent to answer many letters of inquiry by simply mailing a school report.

LATIN SCHOOL.

The following table shows the membership of the Latin school and the cost of instruction from year to year for the past eleven years. In this table the cost per pupil is based upon the average number of pupils for the year. In the tables printed in previous reports down to and including the year 1900, the cost per pupil is based upon the number of pupils belonging to the school in December :—

December	Average Number of Pupils	Number of Teachers in December	Cost of Instruction	Cost per Pupil	Number of Graduates
1892.....	213	10	\$12,751 07	\$59 86	22
1893.....	251	11	13,425 66	53 49	23
1894.....	303	12	14,359 66	47 39	27
1895.....	354	14	15,059 58	42 54	25
1896.....	373	15	16,525 00	44 30	34
1897.. ..	358	16	17,335 00	48 42	35
1898.....	362	16	18,325 00	50 62	43
1899.....	371	19	19,318 68	52 07	43
1900.....	404	22	21,819 00	54 01	39
1901.....	468	22	23,710 84	50 66	56
1902.....	465	24	25,236 00	54 27	62

The cost of the Latin school to the city is less than the above sums by the amount received from the Hopkins Fund, which can be used only for classical instruction, and by the amount received for the tuition of non-resident pupils. This year the amount received from the Hopkins Fund was \$621.56; for the tuition of non-resident pupils, \$1,702.

The course of study is arranged for five years, or for four years, and is almost wholly decided by the requirements for admission to Harvard

College. Eleven per cent of all the graduates have completed the work in four years. The following is the rule relating to the admission of pupils to the high schools: "Pupils who have received the diploma of a Cambridge grammar school may, on recommendation of the master, be admitted to either high school without an examination. For other persons who desire admission, an examination shall be held at the beginning of the autumn term under the direction of the superintendent, but pupils who are qualified to join existing classes may be admitted at any time on application to the principal. No pupil from any grade in a grammar school shall be examined who does not present a satisfactory certificate that he has pursued his studies during the summer vacation."

From three-fourths to four-fifths of the graduates are usually recommended for admission without an examination. About one-half of the remaining part study during the summer vacation, as required by the rule, and take an examination in September. Pupils who pass a fairly good examination are permitted to attend either high school until the Christmas vacation, at which time their connection with the school as regular pupils ends unless their work has been satisfactory.

Diplomas of graduation signed by the mayor and the head master of the school are awarded to pupils of the high schools who have successfully completed the course of study or its full equivalent, and have sustained a good character.

For non-resident pupils the tuition is \$80 a year, payable in advance,—one-half at the beginning and the other half at the middle of the school year. The sessions of the school begin at 8.30 A. M., and end at 1.30 P. M.

The following is from the report of the head master of the Latin school:—

No change has been made in the course of study. The school has had a steady growth since its organization in 1886. Then there were one hundred sixty-eight pupils belonging to the school, now there are nearly five hundred. The number of graduates has also increased from twenty-two in 1892 to sixty-two in 1902.

A number of valuable gifts have been received during the year: 1. Cast of Minerva, from the class of 1877. 2. Cast of Venus, from the class of 1902. 3. A large framed picture, The Discobolus, from the editors of the *Latin and High School Review* and the Alumni of the Latin School. 4. Busts and maps, from William A. Munroe, as follows: (a) Bust of Jupiter of Otricoli. Original in the Vatican. (b) Bust of Juno Ludovisi. Original in the Villa Ludovisi, Rome. (c) Bust of Augustus Cæsar. From statue in the Vatican. (d) Bust of Virgil. (e) Bust of Venus of Melos. From statue in the Louvre. Three of

Keipert's maps: (a) *Italia Antiqua*. (b) *Latii Veteris et Finitimarum Regionum*. (c) *Imperii Romani*.

COURSE OF STUDY FOR THE LATIN SCHOOL.

FIFTH CLASS. (TENTH GRADE.)

Latin, every day during the year. Collar & Daniell's *First Latin Book*, entire.

Algebra, every day during the year. *The Metric System*.

Physiology and Hygiene, every other day the first four months.

History of England, every other day the last six months.

English, every other day during the year. *Lewis's First Book in Writing English*; *The Lady of the Lake*. Daily practice in writing English.

FOURTH CLASS. (ELEVENTH GRADE.)

Latin, every day during the year. Allen & Greenough's *Latin Grammar*; Daniell's *Latin Composition*; Nepos's *Lives*; Cæsar's *Gallie War*, four books; Ovid.

French, four times a week during the year. Grandgent's *Short French Grammar*; Rogers's *French Sight Reading*; Super's *French Reader*; Peppino.

Or

German, four times a week during the year. The first half of Collar's *Eysenbach's German Lessons*; Van Daell's *Preparatory German Reader*; Guerber's *Märchen und Erzählungen*.

Geometry, every day the first six months.

Greek and Roman History, every day the last four months.

English, one exercise a week for the year. Reading of books required for admission to Harvard College. Theme writing twice a week.

THIRD CLASS. (TWELFTH GRADE.)

Latin, four times a week during the year. *The Æneid*, Books I., II., III., IV.; Allen & Greenough's *Latin Grammar*.

Greek, every day during the year. *White's First Greek Book*; Chapters I., II., III., of Book I. of the *Anabasis*.

Instead of Greek, pupils can take German or French; those who have had French in the fourth class take German; and those who have had German in the fourth class take French. The text-books are the same as for the fourth class.

French, every other day during the year. Chardenal's Complete French Course; L'Abbé Constantin; Le Pacte de Famine; Le Conscrit; Colomba; La Tulipe Noire; French Composition (Anecdotes); memorizing of Anecdotes; sight reading.

Or

German, every other day during the year. Collar's Eysenbach's German Lessons; Hoffman's Historische Erzählungen; Immensee; Höher als die Kirche; Wilhelm Tell.

Physics or Chemistry, every day during the year.

English, once a week during the year. Reading of books required for admission to Harvard College. Theme writing twice a week.

SECOND CLASS. (THIRTEENTH GRADE.)

Latin, every day during the year. Ovid; The Æneid, Books V., VI., VII., VIII.; Nepos's Lives; Sallust's Catiline; Jones's Latin Composition; Latin Grammar. Written exercises in Latin or Latin at sight, once a week.

Greek, every day during the year. Goodwin's Greek Reader to page 110; Goodwin's Greek Grammar; Jones's Greek Composition, ten exercises. Written exercises in Greek Grammar or Greek at sight, once a week the last four months.

Instead of Greek continue German or French elected in the third class. The text-books are the same as for the third and second classes.

French, every other day during the year. L'Avare; La Fontaine's Fables; La Chute; Mlle. de la Seiglière; French Composition (Anecdotes); French Grammar; sight reading.

Or

German, every other day during the year. Harris's German Composition; Die Jungfrau von Orleans; Ekkehard; Minna von Barnhelm; Peter Schlemihl; Aus dem Staat Friedrichs des Grossen.

Physics or Chemistry, every other day during the year.

Ancient History, Greece and Rome, every other day during the year.

Algebra, every other day during the year. Written exercises once a week during the last five months.

English. Reading of books required for admission to Harvard College. Written essays.

FIRST CLASS. (FOURTEENTH GRADE.)

Latin, every day during the year. The *Aeneid*, and the *Bucolics* and the *Georgics*; Cicero, twelve orations, of which two are at sight. Also written exercises twice a week during the year in Latin Composition (including the review of Nepos for written work) or Latin at sight.

Greek, every day during the year. Homer, Books I, II, III, IV, entire, and the other selections in Johnson's *Iliad*; Jones's Greek Composition, last thirty exercises. Written exercises once a week in prose composition, Greek Grammar or Greek at sight.

Or

French, every other day during the year. *Le Cid*; *Athalie*; *Le Conscrit*; Lamartine's *Scènes de la Révolution Française*; Bouvet's French Composition. Those who take this French will also take Trigonometry and Solid Geometry.

Geometry, every other day during the year. Written exercises including original demonstrations once a week during the year.

Trigonometry and solid Geometry, every other day during the year.

College Algebra (elective), every other day during the year.

English, every other day during the year. This includes reading (for the first time or in review) the books in English required for admission to Harvard College.

ENGLISH HIGH SCHOOL.

The following table shows the membership of the English high school and the cost of instruction for eleven years. Until January 1, 1899, the pupils of the Rindge manual training school were included in the membership of the English high school. This explains the smaller number of pupils since 1898.

In this table the cost per pupil is based upon the average number of pupils for the year. In the tables printed in previous reports down to and including the year 1900, the cost per pupil is based upon the number of pupils belonging to the school in December:—

Year	Average Number of Pupils	Number of Teachers in December	Cost of Instruction	Cost per Pupil	Number of Graduates
1891.....	480	16	\$18,767 50	\$39 10	48
1892.....	529	19	20,488 50	38 73	77
1893.....	569	19	22,095 00	38 88	95
1894.....	611	21	23,051 00	37 73	91
1895.....	648	21	24,369 40	37 60	89
1896.....	632	21	24,612 00	38 94	72
1897.....	644	23	25,194 09	39 12	90
1898.....	685	23	26,051 17	38 03	97
1900.....	514	24	25,250 50	49 13	68
1901.....	517	24	26,265 58	50 80	60
1902.....	498	24	26,747 51	53 71	86

The requirements for admission to this school and the rules relating the granting of diplomas are the same as for the Latin school.

For non-resident pupils the tuition is \$80 a year, payable in advance,—one-half at the beginning and the other half at the middle of the school year. The sessions of the school begin at 8.30 A. M., and end 1.30 P. M.

The following is from the report of the head master of the English school:—

Six boys and one girl from the English high school took the Harvard mission examinations in the summer of 1902, two for Harvard College, one for Radcliffe College, and four for the Lawrence Scientific School. They attempted thirty-eight subjects and passed in thirty, winning four honors. Eight boys and one girl from this school took forty admission examinations at the Massachusetts Institute of Technology, passing in thirty-five. Those who took their finals passed clear, and anticipated one more subjects of the freshman year in each case. Some of these sixteen also took in the autumn additional examinations which are known to have been successful, but of which no detailed report has been received. Two recent graduates of the school, after spending a year or two in business took admission examinations at Dartmouth College last summer with complete success. It is probable that when they entered the high school not more than half of these eighteen expected to go to college or to scientific school. The desire for higher education was a development from their school career,—in two cases from their business career. This illustrates the difficulty of determining at the age of fourteen the future of an American child, and proves the wisdom of flexibility in school courses.

Within the year the school has been the recipient of three tasteful gifts; two given by the graduating class of 1902 on leaving school, and the third coming from the editors of the *Latin and High School Review*, whose former gifts have been gratefully acknowledged. These casts are very welcome. They make an appropriate and graceful addition to the ornamentation of our assembly hall, where they are seen daily by all the pupils, and tend to improve their æsthetic taste. They also serve a valuable purpose as reminders of the kindly appreciation of the school entertained by the donors.

Among the graduates of this school in the class of 1900 was a young colored girl who had done much to earn her own way while a student here. After her graduation, through the kindly aid of some Cambridge friends, she was enabled to take a year at the Salem normal school. In the following autumn she became a teacher in the Bethany Normal and Industrial Institute in her native state, North Carolina, where she found

herself in a position of genuine leadership as a teacher. Her letters to her former teachers led them to inquire whether there were any needs of her pupils which our school could supply. The response came that suitable clothing would relieve the winter necessities of the boys and girls (the school is in the mountains) and would make it possible for some to attend who otherwise must remain at home.

The case was laid before the pupils of this school in November, 1901, with the result that six boxes and barrels, well filled, were sent to the institute. The same action was taken this year, and letters from the happy recipients telling of their joy and of their appreciation of the kind remembrance, are now arriving. It would be hard to determine which have profited most by the experience, the receivers in North Carolina or the givers in Massachusetts.

COURSES OF STUDY FOR THE ENGLISH HIGH SCHOOL.

There are four courses of study,—a general course, a course preparatory for the scientific schools, a commercial course, and a domestic science course, each arranged for four years. The commercial course was formerly a two years' course. The course in domestic science was introduced in 1899.

It is the plan of the courses that all pupils in the school shall pursue substantially the same subjects for their first year, but thereafter shall have increasingly divergent studies, opened to choice within reasonable limitations, and determined largely by aptitude and expectation of subsequent career.

These general statements apply to all the courses :—

1. All pupils will have a weekly exercise in music (choral singing).
2. Drawing is required of all once a week for the first year, and is opened to all as an extra subject during the remaining three years.
3. It is expected that no two foreign languages will be begun the same year; that any foreign language once begun will ordinarily be continued for two years, and that a modern foreign language will not be continued longer than two years, except by work in conversation.
4. Variations from the courses as stated are permissible with the approval of the head master.

The following outline presents the courses in detail :—

GENERAL COURSE.

Subjects.	Hours per week.
FIRST YEAR.	
Latin, French or German.....	5
Algebra.....	5
English History (7 mos.) and Physiology (3 mos.).....	3
English.....	3
Drawing.....	1

Subjects.	Hours per week.
SECOND YEAR.	
Latin, French or German.....	5
Physics	5
English.....	3
Geometry, 8; or History of Greece and Rome.....	3

THIRD YEAR.	
Latin.....	} (one or two)..... 5 or 10
French	
German	
Chemistry	3
Botany.....	2
English.....	3
History of the United States, elementary.....	3
Ornithology, as an extra subject	2

Pupils who take two foreign languages this year may omit Botany and either Chemistry or History.

FOURTH YEAR.	
Latin.....	} (one or two)..... 5 or 10
French	
German	
English.....	5
Physics	2
Astronomy.....	2
History of the United States, elementary, or detailed study of a limited period. ...	3
Interpoint and Melodic Instruction, as an extra subject.....	2

Pupils who take two foreign languages this year may omit Civics and Astronomy.

COURSE PREPARATORY FOR THE SCIENTIFIC SCHOOLS.

Subjects.	Hours per week.
FIRST YEAR.	
French or German.....	5
Hebrew.....	5
English History (7 mos.) and Physiology (3 mos.).....	3
English.....	3
Swimming.....	1

SECOND YEAR.	
French or German.....	5
Physics	5
Geometry.....	3
English.....	3
History of Greece, as an extra subject, (required after September, 1902) ..	3

THIRD YEAR.	
German or French.....	5
Reviews in Algebra and Geometry.....	5
Chemistry.....	5
English	3
History as an extra subject, either of the United States, elementary, or of Rome, (required after September, 1902).....	3

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There are four courses of study,—a general course, a course preparatory for the scientific schools, a commercial course, and a domestic science course, each arranged for four years. The commercial course was formerly a two years' course. The course in domestic science was introduced in 1899.

It is the plan of the courses that all pupils in the school shall pursue substantially the same subjects for their first year, but thereafter shall have increasingly divergent studies, opened to choice within reasonable limitations, and determined largely by aptitude and expectation of subsequent career.

These general statements apply to all the courses :—

1. All pupils will have a weekly exercise in music (choral singing).
2. Drawing is required of all once a week for the first year, and is opened to all as an extra subject during the remaining three years.
3. It is expected that no two foreign languages will be begun the same year; that any foreign language once begun will ordinarily be continued for two years, and that a modern foreign language will not be continued longer than two years, except by work in conversation.
4. Variations from the courses as stated are permissible with the approval of the head master.

The following outline presents the courses in detail :—

GENERAL COURSE.

Subjects.	Hours per week.
FIRST YEAR.	
Latin, French or German.....	5
Algebra.....	5
English History (7 mos.) and Physiology (3 mos.).....	3
English.....	3
Drawing.....	1

Subjects.	Hours per week.
SECOND YEAR.	
Latin, French or German.....	5
Physics	5
English.....	3
Geometry, 3; or History of Greece and Rome.....	3

THIRD YEAR.	
Latin.....	} (one or two)..... 5 or 10
French	
German	
Chemistry	3
Botany.....	2
English....	3
History of the United States, elementary.....	3
Harmony, as an extra subject	2

Pupils who take two foreign languages this year may omit Botany and either Chemistry or History.

FOURTH YEAR.	
Latin.....	} (one or two)..... 5 or 10
French	
German	
English.....	5
Civics	2
Astronomy.....	2
History of the United States, elementary, or detailed study of a limited period. ...	3
Counterpoint and Melodic Instruction, as an extra subject.....	2

Pupils who take two foreign languages this year may omit Civics and Astronomy.

COURSE PREPARATORY FOR THE SCIENTIFIC SCHOOLS.

Subjects.	Hours per week.
FIRST YEAR.	
French or German.....	5
Algebra.....	5
English History (7 mos.) and Physiology (3 mos.).....	3
English.....	3
Drawing.....	1
SECOND YEAR.	
French or German.....	5
Physics	5
Geometry.....	3
English.....	3
History of Greece, as an extra subject, (required after September, 1902) ..	3
THIRD YEAR.	
German or French.....	5
Reviews in Algebra and Geometry.....	5
Chemistry.....	5
English	3
History as an extra subject, either of the United States, elementary, or of Rome, (required after September, 1902).....	3

Subjects.	Hours per week.
FOURTH YEAR.	
German or French.....	5
Advanced Mathematics (at present Solid Geometry and Advanced Algebra).....	5
College English.....	3
History of the United States, elementary, or detailed study of a limited period....	3
Review of English History when required.....	2
Conversational French or German.....	2

COMMERCIAL COURSE.

Subjects.	Hours per week.
FIRST YEAR.	
French or German.....	5
Algebra.....	5
English History (7 mos.) and Physiology (3 mos.).....	3
English.....	3
Drawing.....	1
SECOND YEAR.	
French or German.....	5
Physics, 5; or Geometry, 3, and History of Greece and Rome, 3.....	5 or 6
English.....	3
Bookkeeping and Commercial Forms.....	3
THIRD YEAR.	
Stenography and Typewriting.....	5
Chemistry, 3, and Botany, 2; or French or German.....	5
English.....	3
Geometry, or History of Greece and Rome, or of the United States, elementary... 3	3
FOURTH YEAR.	
Descriptive Economics, Commercial History and Geography.....	5
English.....	5
Civics, 2, Astronomy, 2; or French or German.....	5
History of the United States, elementary, or a detailed study of a limited period..	3

DOMESTIC SCIENCE COURSE.

Subjects.	Hours per week.
FIRST YEAR.	
Latin, French or German.....	5
Algebra.....	5
English History (7 mos.) and Physiology (3 mos.).....	3
English.....	3
Drawing.....	1
SECOND YEAR.	
Latin, French or German.....	5
Sloyd.....	5
English.....	3
Geometry, or History of Greece and Rome.....	3

Subjects.	Hours per week.
THIRD YEAR.	
French or German.....	5
English.....	3
Chemistry.....	3
Botany.....	2
Food and its preparation.....	5
History of Greece and Rome, or of the United States, elementary, as an extra subject.....	3

FOURTH YEAR.	
French or German.....	5
English.....	5
Household Chemistry and Hygiene.....	5
History of the United States, elementary, or study of a detailed period.....	3

FIRST YEAR.

The English of the first year deals with both literature and composition. The works of literature studied are Dickens's Tale of Two Cities; Scott's Ivanhoe, and Marmion; Shakespeare's Richard III.; Tennyson's Lancelot and Elaine and other Idylls of the King. The composition work is based upon a manual and covers the following topics among others: punctuation, capitals, the combination and transformation of elements, the principles of expression, the figures of speech, and exercises in development, reproduction, paraphrasing, composition, and letter writing.

The work in algebra is a substantial grasp of the field as far as affected quadratics.

The English history is carefully studied with the help of a text-book, note books, illustrative material, written work, and some collateral reading.

The work in physiology includes visits of classes with their teachers to the Agassiz Museum, and other objective helps.

SECOND YEAR.

The second year introduces important differences, yet gives certain subjects to all.

The foreign language begun in the previous year must be continued.

Physics is required in two courses, is optional in one, and is replaced by sloyd in the fourth. It includes laboratory work by the pupils, experiments by the teacher, records of observation and inferences, the solution of practical problems, and the usual recitation and examination methods.

The work in sloyd will follow as a suggestion and guide the normal course, so called, explained and illustrated in Larsson's Sloyd for American Schools. Selections will be made from among the thirty-one models therein described as the needs and capabilities of the pupils warrant.

The English, which is required of all pupils on its literature side, will include Dickens's Christmas Stories; Hawthorne's Twice-Told Tales; Scott's Abbot, and the Lady of the Lake. The composition work, based on another manual, will give a review in new forms and a continuation of the first year's work; a brief history of the English language, its Anglo-Saxon and classical elements; and the more obvious properties of diction.

Geometry is required in the course preparatory for higher institutions but is optional in the other courses. The work is an introduction to plane geometry.

Bookkeeping is required in the commercial course. The work is based on a text-book and accompanying papers. The pupil is led to make actual use of vouchers substantially as they are employed in business and to write his bookkeeping records from them under the guidance of carefully arranged directions.

The history of this year is an informational survey of the progress of civilization in Greece and Rome. It is an optional subject in all the courses.

The Latin of this year is selected from Nepos.

THIRD YEAR.

In this year somewhat broader options are possible in the several courses. Latin may be continued in the general course or may be dropped for a modern language. Those who have pursued either French or German for two years must now exchange that language for the other, or, in the commercial course, take certain sciences instead. Each course now provides work more distinctively its own, while offering also elements that make for general culture.

In Latin, Cæsar and Ovid are read.

The work in chemistry consists largely in laboratory practice, great importance being attached to skilful manipulation, keen observation, logical reasoning, and the neat, orderly, and accurate recording of work done and results reached. The course follows "An Outline of Requirements in Chemistry" issued by Harvard University.

In botany similar methods are followed so far as the nature of the subject and the briefer time permit.

The English work of this year deals chiefly with literature, and bases upon it the written work required. The works studied are Goldsmith's

Deserted Village, Traveller, and Vicar of Wakefield; the Sir Roger de Coverley Papers; Scott's Quentin Durward; Shakespeare's Merchant of Venice, and Julius Cæsar; and Selections from British Masterpieces. The pupils preparing for higher institutions read instead of the above the works designated for examination for entrance to those institutions. For the year 1903 these are: Burke's Speech on Conciliation with America; Carlyle's Essay on Burns; Coleridge's Ancient Mariner; the Sir Roger de Coverley Papers; Goldsmith's Vicar of Wakefield; George Eliot's Silas Marner; Lowell's Vision of Sir Launfal; Macaulay's Essays on Milton and Addison; Milton's Minor Poems, Lycidas, Il Penseroso, Comus, and L'Allegro; Scott's Ivanhoe; Shakespeare's Julius Cæsar, Macbeth, and Merchant of Venice; and Tennyson's Princess.

The history of this year relates to the United States, and covers the entire period. Both Johnston's and Channing's text-books are used, much written work and collateral reading are secured, and maps are carefully studied and reproduced. Some attention is paid to the study of sources. Skill in selection is trained by topical work; skill in judgment, by the institution of comparisons and the search for causes; skill in expression, by the acceptance of none but well written papers or recitations made in correct form.

The reviews in algebra and plane geometry are designed to cover, by the use of a fresh and harder text-book, the entire requirement in these subjects for admission to the higher institutions, so that those who are successful in them shall be adequately prepared for the preliminary examinations.

In the domestic science course, the distinctive subject for this year is food and its preparation. In this subject the following topics will be treated by familiar talks and illustrated by practical work: A. *Food*: classification of food substances according to chemical composition; the use of each class in the body; food value of the various classes compared; cost of the various classes compared; experiments testing the foods for albumen, casein, gluten, starch, fat, etc.; others illustrating the action of yeast and baking powders; still others showing the effect of heat on the digestibility of different foods; the manufacture of the different food substances; marketing lessons with visits to Quincy Market, the chocolate factory, and elsewhere; study of food adjuncts, condiments, tea, coffee, etc. B. *Chemistry of Cooking*: various methods of cooking foods; advantages of each method; principles of cooking; practical application of the principles involved in the cooking of the various food substances. C. *Practical Cooking*: cooking of proteids (eggs, milk, cheese, fish, meat, gelatine, peas, beans, etc.); cooking of carbohydrates (cereal foods, tapioca, vegetables, macaroni, sugar, etc.);

cooking of fats (cocoa, chocolate, preparation of salads, use of fats for soap); study of fermentation, and the use of yeast in making the various raised breads; study of baking powders, soda and sour milk or molasses, and their use in making biscuits, ginger bread, cake and muffins. D. *Serving of Food*: duties of the waitress; care of the dining room; serving of breakfasts, luncheons, and dinners. E. *Chemistry of Cleaning* (weekly through the year): (1) The Kitchen and its Equipment: selection and care of cooking utensils; care of the sink and sink plumbing; selection and care of the range; advantages of different fuels; selection and care of the refrigerator. (2) Essentials of Cleanliness: care of food; disposal of garbage; care of dish towels, etc.; cause of tarnish and the removal of it from iron, tin, zinc, brass, copper, aluminum, steel, nickel, and silver; care of the glass, china, and table linen; cleaning of unfinished and finished woods; cleaning of rugs, carpets, and matting. (3) The Manufacture of Cooking Utensils: glass, silverware, etc.; visits to the glass factory.

FOURTH YEAR.

The Latin of this year includes Virgil's *Æneid* and Cicero's Orations.

The English embraces practice in composition, some instruction in the principles of rhetoric, the critical reading of several works, and a survey of the field of English literature. This survey is necessarily brief, but aims to note the more prominent writers and productions in right relations one to another and in their proper historical environment. The works read are: Arnold's *Sohrab and Rustum*; Carlyle's *Essay on Burns*; Emerson's *American Scholar*; George Eliot's *Silas Marner*; Macaulay's *Essays*; parts of Milton's *Paradise Lost*; Scott's *Woodstock*; Selections from *British Masterpieces*; Shakespeare's *As You Like It*, *Macbeth*, *Midsummer-Night's Dream*, and *Twelfth Night*; and Tennyson's *Princess*. The English for the pupils preparing for higher institutions is confined more narrowly to the requirements for admission for the given year.

The advanced mathematics will for the present include solid geometry and advanced algebra, in preparation for the final examinations at the higher institutions.

The history for this year is that of the United States. Those pupils electing history who have taken the course prescribed for the previous year in this subject will devote themselves with much care and thoroughness to the detailed study of a limited period within the history of this country, in which the general methods previously described will be carried as far as the capabilities of secondary students and the time at

their disposal shall permit. The pupils preparing for higher institutions will also review their English history.

The classes in conversational French and German are designed to freshen and extend the knowledge in those subjects obtained by earlier study.

The work in descriptive economics, commercial history, and geography will aim to show the pupils of the commercial course the leading facts in the economic history of the United States, to interest them in economic problems, and to help them to apply the principles of economics to commercial life.

The subject of civics is treated both historically, with the use of Fiske's Civil Government, and practically, by constant reference to documents, actual experience, and observation.

In the domestic science course attention is given to advanced cooking and household hygiene with the following list of topics as a guide: A. *Advanced Cooking*: cooking of vegetables; vegetable soups; fruits and fruit desserts; cake; frying of fish; vegetables, croquettes, doughnuts, etc.; frozen dishes; jellies, preserves, and pickles. B. *Bacteriology*: study of bacteria, yeasts, and molds; practical application in preserving fruits and vegetables, in the care of the sickroom, in the care of plumbing, and in the use of disinfectants. C. *Physiology of Digestion*: practical applications in lessons in cooking for invalids. D. *Home Nursing*: location and furnishing of the sick room; care of invalids. E. *Sanitation*: study of soils and building location; draining of soil; building of the house; study of methods of lighting, heating, and ventilation; study of plumbing; care of plumbing; construction of the cellar; planning of different rooms; furnishings of the house; the essentials of an ideal home. F. *Home Expenses*: planning of ménus with cost per head; estimate of household expenses.

Music and drawing are regarded as important branches of the course of study. There is a weekly exercise in chorus singing, required of all, in addition to the daily opening exercises which include singing. In the third year there is an optional class in harmony, and in the fourth year a similar class in counterpoint and melodic construction, each with lessons twice a week. These are designed especially for pupils who intend to become teachers. Besides the required drawing of the first year, an optional class is formed open to pupils of the three later years.

While the studies of the English high school are selected and arranged with main reference to the wants of those who are not to enter college, pupils of good capacity need only to supplement these studies by a moderate amount of outside work to gain admission to such colleges as offer courses that do not include Greek. In this way several graduates of

the school have entered college and are maintaining an honorable standing there. The second of the four regular courses also leads directly to the scientific schools.

RINDGE MANUAL TRAINING SCHOOL.

This school was founded by Mr. Frederick H. Rindge in 1888. For ten years he paid the current expenses of the manual training department, the city providing for the academic instruction. January 1, 1899, a complete transfer of the entire plant was made to the city, and the school became an integral part of the school system.

The following table shows the membership of the manual training school and the cost of instruction for three years : —

Year	Average Number of Pupils	Number of Teachers in December	Cost of Instruction	Cost per Pupil	Number of Graduates
1900	192	14	\$17,825 73	\$92 84	16
1901	191	14	17,988 33	94 18	21
1902	242	15	19,108 67	78 96	23

The cost of the manual training school to the city is less than the above sums by the amounts received from Harvard University for the instruction of a class of students during the summer vacation, and for the tuition of non-resident pupils. The amount received this year from both sources was \$4,654.

The course of instruction covers four years. The sessions are five and one-half hours a day, instead of five, as in the other high schools. About one-third of the time is given to the work of manual training, and the remainder to the subjects usually taught in high schools, with the exception of Latin and Greek.

The requirements for admission to this school and the rules relating to the granting of diplomas are the same as for the Latin school.

For non-resident pupils, the tuition is \$150 a year, payable in advance,—one-half at the beginning, and the other half at the middle of the school year. The sessions of the school begin at 8.30 A. M., and end at 2 P. M.

The following is from the report of the head master of the Rindge manual training school : —

The completion of the Washington school building, and the assignment of four rooms to this school, has been the most important event of the year.

During the past six years we have steadily increased in numbers. Six years ago we registered one-third of the boys who graduated from the grammar schools and entered the high schools. Last September more than one-half of the boys who entered the high schools came to this school. Our increase this year over the numbers a year ago is 17 per cent. I regret that so many parents fail to grasp the fact that this school offers the best advantages to young men intending to enter the Massachusetts Institute of Technology or the Lawrence Scientific School.

An increase in our machine shop equipment will be necessary, that we may provide for the second class the latter half of this year. An increase in our pattern shop facilities is also necessary. We have lost several able teachers during the past few years, due to the fact that our salaries were not as large as those offered by other cities.

The cost per pupil for this school is of necessity larger than for a purely academic high school, but the demand for our graduates at comparatively large pay indicates that the public looks with favor upon the training received.

COURSE OF STUDY FOR THE RINDGE MANUAL TRAINING SCHOOL.

FOURTH CLASS. (TENTH GRADE.)

GENERAL COURSE.	Hours per Week.	Months per Year.	COLLEGE COURSE.	Hours per Week.	Months per Year.
Algebra	5	10	Same as General Course.		
English	5	10			
English History }	3	10			
Physiology }	3	10			
Supervised Study.....	2	10			
Drawing }	10	10			
Shop Work }	5	10			
Study.....	5	10			

THIRD CLASS. (ELEVENTH GRADE.)

French	5	10	Same as General Course.		
Geometry.....	3	10			
English	2	10			
Drawing.....	5	10			
Shop Work.....	10	10			
Study.....	5	10			

SECOND CLASS. (TWELFTH GRADE.)

GENERAL COURSE.	Hours per Week.	Months per Year.	COLLEGE COURSE.	Hours per Week.	Months per Year.
Physics	5	10	Algebra, Geometry....	5	10
French.....	5	10	French	5	10
English }	5	10	English }	5	10
History }			History }		
Drawing }	10	10	Drawing }	10	10
Shop Work }			Shop Work }		
Study	5	10	Study	5	10

FIRST CLASS. (THIRTEENTH GRADE.)

Chemistry	5	10	Advanced French.....	5	10
Physics	5	10	English }	5	10
Civil Government.....	2	10	Solid Geometry }		
English	5	10	Physics	10	10
Drawing }	10	10	Shops (alternate days)	5	10
Shop Work }			Drawing (elective) } ..	5	10
Study	5	10	Study } ..		
			Chemistry } ..		

An effort is made to give proper emphasis to the academic features of the course, and to make that work interesting and effective by bringing it into intimate relation with instruction in the mechanic arts.

The manual dexterity and the thorough knowledge of tools, machinery, and mechanical processes acquired in the shops, at an age when time can be most easily spared for such training, is of inestimable value in any scientific pursuit.

At the beginning of the third year a choice is offered between the college course designed for boys fitting for higher scientific schools and the general course for those who do not intend to enter the higher schools. The work of the college course is arranged to meet the requirements for admission to the Massachusetts Institute of Technology and the Lawrence Scientific School.

MANUAL TRAINING IN OTHER SCHOOLS.

The statutes require that every town and city of twenty thousand or more inhabitants shall maintain, as part of both its elementary and its high school system, the teaching of manual training. The Rindge manual training school gives the required instruction to boys of the high

school grade, and provision is made in the English high school for girls of this grade, sloyd being taught in the second year, and cooking in the third. Sewing in the grammar schools may be considered as meeting the requirements for girls in the grammar grades.

The requirements that manual training shall be taught in elementary schools as well as in high schools has not been fully complied with. Provision has been made for the teaching of this subject in only three of the grammar schools — the Putnam, the Roberts, and the Wellington. When the schoolhouse on Willow street is completed, provision can be made for the Allston school. Now that the Washington school is so closely connected with the Rindge manual training school, arrangements could be made for the pupils of that school to use the benches at the manual training school building on afternoons between the hours of two and four, there being no afternoon session at the manual training school.

At the Harvard school there is an unoccupied room in the basement which might be used for a class in manual training. The superintendent hopes that in the near future provision will be made for the teaching of manual training in all the grammar schools, as required by statute. The work of manual training in all the schools is under the direction of the head master of the Rindge manual training school.

WELLINGTON TRAINING SCHOOL.

This school was opened in September, 1884, and differs from the other schools in this respect,— all the grades, except the eighth and ninth, are taught by young teachers. Their work, however, is done under the immediate supervision of a master and three assistants, who are held responsible for the instruction and management of the school. For several years the seventh grade has been taught by a graduate of the training class.

The object of conducting a school on this plan is to give Cambridge young women who desire to teach, and who have made special preparation for the work, an opportunity to gain experience under conditions favorable to their own success, and without prejudice to the interest of their pupils.

Graduates of the English high school or of the Latin school, who have also graduated from one of our state normal schools, are preferred candidates for the position of teacher in this school. Other persons of equal preparation may be appointed.

The required term of service is one year. Teachers are appointed on probation, and may be excused or dismissed at any time by the superintendent, with the approval of the committee on the training school.

No teacher is considered a graduate of the school until by vote of the training school committee she is admitted to the graduate class, which is known as Class B.

The money compensation for the first three months, and until satisfactory service is rendered, is at the rate of two hundred dollars a year. For the remaining part of the year it is at the rate of two hundred fifty dollars.

Graduates temporarily employed as teachers in this school are paid at the rate of three hundred dollars a year. Graduates selected to act as substitutes in any school are paid at the rate of four hundred fifty dollars.

That the direct influence of the school may be continued, it is the duty of the master, or of one of the supervising teachers, occasionally to visit the schools of the graduates who are teaching in Cambridge. The school contains all the grades of the grammar and primary schools and a kindergarten.

By the rules of the school board the superintendent is authorized to employ as many substitutes and temporary teachers as may be necessary to take the places of absent teachers. These teachers are usually assigned to the training school, when not otherwise employed, that there may be at this school a sufficient number of teachers to make it practicable for the members of the training class to visit other schools.

The following is from the report of the committee on the training school : —

The general conditions of the school remain about the same as they were last year. Over one thousand children have been enrolled and have been cared for in the Wellington buildings, with the exception of one class, which was sent to the Merrill school. The great majority of the graduates of the training class have found positions in the schools of Cambridge. At the present time nearly fifty per cent of the teachers in our grammar and primary schools, not including those in the Wellington, are graduates of this school. Recently several of these graduates have been called to Boston.

The committee is pleased to report that the long expected school-house on Willow street is in process of erection. When it is completed, the crowded condition of the Wellington school may find relief.

GRAMMAR SCHOOLS.

The number of pupils in these grades on the first of December was six thousand eight hundred ninety-eight, and the number of teachers including masters and special teachers, was one hundred seventy-nine.

The cost of instruction for each pupil for the year has been \$20.52. This does not include the cost of supervision or the cost of the Wellington school.

For non-resident pupils the tuition is \$30 a year, payable in advance, — one-half at the beginning and the other half at the middle of the school year.

The course of study is for six years, but the schools are so classified as to give the pupils an opportunity to complete the course in four years or in five years. The average age of those who entered last September was nine years nine months. The number of graduates was five hundred sixty-five, their average age being fourteen years eleven months. Of these, 6 per cent completed the course in four years, 28 per cent in five years, 50 per cent in six years, and 16 per cent in seven years or more.

Pupils are promoted by classes from the primary schools at the beginning of the autumn term; but individual pupils may be promoted at other times, if it is deemed expedient by the supervisor of primary schools and the superintendent.

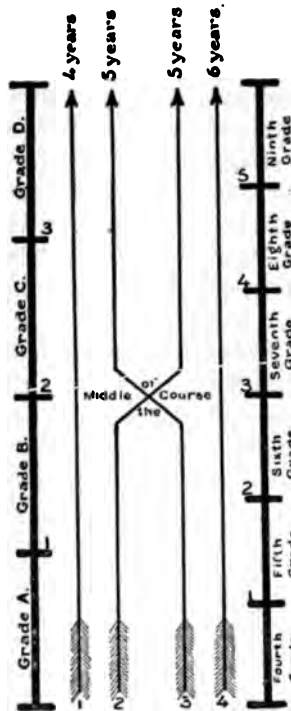
Promotions from grade to grade in the grammar schools, and from the grammar to the high schools, are made by the teachers under the direction of the masters and the superintendent. Pupils qualified to join existing classes may be admitted at any time on application to the master of the school. No regular pre-announced examinations are held in these schools, but the results of such written exercises and reviews as the teachers and masters may require from time to time may be used as a part of the basis of promotion.

The thoroughness with which the work is done in any school is shown in part by the ability of the pupils to do the work in the high schools. The pupils are admitted to the high schools on trial; and, by the rule of the high school committee, any pupil who fails to maintain a suitable rank is reported to that committee, and no pupil thus reported can continue in either high school, except by special vote. For two years, however, provision has been made by which these pupils have been allowed to remain in the English high school, and receive such instruction as would best fit them to enter again upon the regular work of the school at its reorganization in September.

In the grammar schools special teachers are appointed to help such pupils as seem able to do the work in less than six years, and to aid those who without personal instruction would require more than six years. This action of the committee removes the most serious objection to the graded system of schools.

The course of study is divided in two ways: (1) into six sections; (2) into four sections; each section covering a year's work. Pupils taking

the course in six years are classified in six grades, called the fourth, fifth, sixth, seventh, eighth, and ninth grades. Those taking it in four years are classified in four grades, called grades A, B, C, and D. When pupils are promoted to the grammar schools they begin the first year's work together. After two or three months they are separated into two divisions.



One division advances more rapidly than the other, and during the year completes one-fourth of the whole course of study. The other division completes one-sixth of the course.

During the second year the pupils in grade B are in the same room with the sixth grade. At the beginning of the year they are five months (one-half the school year) behind those in the sixth grade. After two or three months, grade B is able to recite with the sixth grade, and at the end of the year both divisions have completed one-half the course of study — the one in two years, and the other in three years. The plan for the last half of the course is the same as for the first half, the grades being known as the seventh, eighth, and ninth in the one case, and as C and D in the other.

There are also two ways of completing the course in five years: (1) any pupil who has completed one-half the course in two years may at the end of that time be transferred to the seventh grade, and finish the course in three years; (2) any pupil who has completed one-half the course in three years may at the end of that time be transferred to grade C, and finish the course in two years. In both cases these changes can be made without omitting or repeating any part of the course.

It is now eleven years since the schools were first classified on this plan. During this time five thousand nine hundred twenty-six pupils have graduated from the grammar schools. Of this number 8 per cent completed the course in four years, 29 per cent in five years, 48 per cent in six years, and 15 per cent in seven years or more.

Of the number who entered the Latin school during the past eight years, 16.3 per cent did the work in the grammar schools in four years,

Arrow No. 1 indicates the four years' course; grades A, B, C, D. Arrow No. 2 indicates one of the five years' courses; grades A, B, 7, 8, 9. Arrow No. 3 indicates the other five years' course; grades 4, 5, 6, C, D. Arrow No. 4 indicates the six years' course; grades 4, 5, 6, 7, 8, 9.

46.4 per cent in five years, and 37.3 per cent in six years. Of those who entered the English high school and took the general course, 10.7 per cent did the work in the grammar schools in four years, 41.2 per cent in five years, and 48.1 per cent in six years; of those who took the commercial course in the English high school, 8.6 per cent did the work in the grammar schools in four years, 37.8 per cent in five years, and 53.6 per cent in six years. Of those who entered the Rindge manual training school, 6.5 per cent did the work in the grammar schools in four years, 36.1 per cent in five years, and 57.4 per cent in six years.

During the past eight years, more than 50 per cent of the pupils entering the high schools did the work in the grammar schools in less than six years, 41.2 per cent doing it in five years, and 11.3 per cent in four years. It does not follow, however, that because so many did the work in less than the full time, the plan is a good one. Its value is shown rather, by the thoroughness with which the work has been done, not in one year only, but in a series of years. The results of the first year's work in the high schools would seem to be a test of this thoroughness. The records in these schools show that for eight years the average per cent of the pupils who were four years in the grammar schools was higher than for those who were five years in the grammar schools, and that the per cent of those who were five years in the grammar schools was higher than for those who were six years in the grammar schools.

The average per cents of the first year's work in the different high schools for eight years are as follows:—

In the Latin school, the average per cent of the pupils who completed their grammar school work in four years is 79.7; of those who completed it in five years, 75.1; of those who completed it in six years, 70.6.

In the general course of the English high school, the average per cent of the pupils who completed the grammar school work in four years is 78.4; of those who completed it in five years, 75.7; of those who completed it in six years, 73.1.

In the commercial course of the English high school, the average per cent of the pupils who completed the grammar school course in four years is 73.5; of those who completed it in five years, 72.1; of those who completed it in six years, 70.3.

In the Rindge manual training school, the average per cent of the pupils who completed the grammar school work in four years is 77.3; of those who completed it in five years, 68.2; of those who completed it in six years, 67.3.

The following tables will be of interest as showing the results of the first year's work in the high schools of eight classes:—

IN THE LATIN SCHOOL.

RECORD OF EIGHT DIFFERENT CLASSES	FOUR YEARS IN GRAMMAR SCHOOLS	FIVE YEARS IN GRAMMAR SCHOOLS	SIX YEARS IN GRAMMAR SCHOOLS
First Year in High Schools	Average per cents in High Schools	Average per cents in High Schools	Average per cents in High Schools
Class of 1895.....	78.7	78.9	76.4
Class of 1896.....	80.4	77.0	71.6
Class of 1897.....	79.3	72.5	66.9
Class of 1898.....	77.1	72.3	67.8
Class of 1899.....	80.0	73.0	61.8
Class of 1900.....	81.1	75.9	75.4
Class of 1901.....	79.6	75.2	70.1
Class of 1902.....	81.0	77.5	74.7

IN THE ENGLISH HIGH, GENERAL COURSE.

Class of 1895.....	77.3	76.2	73.4
Class of 1896.....	85.9	75.1	70.4
Class of 1897.....	79.7	78.7	72.2
Class of 1898.....	77.6	75.8	77.0
Class of 1899.....	75.6	75.1	69.1
Class of 1900.....	79.2	73.4	71.1
Class of 1901.....	72.8	75.2	73.2
Class of 1902.....	82.2	75.3	74.3

IN THE ENGLISH HIGH, COMMERCIAL COURSE.

Class of 1895.....	73.7	73.5	69.8
Class of 1896.....	74.8	70.9	68.4
Class of 1897.....	76.3	69.0	69.3
Class of 1898.....	73.7	73.8	69.5
Class of 1899.....	69.5	68.5	66.9
Class of 1900.....	69.2	73.6	72.5
Class of 1901.....	76.0	73.6	70.5
Class of 1902.....	74.9	75.5	73.3

IN THE MANUAL TRAINING SCHOOL.

Class of 1895.....	72.6	65.4	65.9
Class of 1896.....	79.3	63.5	65.2
Class of 1897.....	78.6	67.2	61.7
Class of 1898.....	81.7	69.5	68.9
Class of 1899.....	....	67.5	67.8
Class of 1900.....	72.6	69.6	68.0
Class of 1901.....	80.0	67.8	68.4
Class of 1902.....	80.4	71.9	69.2

The results already given are based on the first year's work in the high schools. For the second time results have been obtained based on a full course in the high schools. Last June sixty-two pupils were graduated from the Latin school. Of this number, forty-five were graduates of the Cambridge grammar schools. Of these forty-five, five did the work in the grammar schools in four years, and their average per cent for the Latin school course was 83.2; twenty-seven did the work in the grammar schools in five years, and their average per cent for the Latin school course was 77.0; twelve did the work in the grammar schools in six years, and their average per cent for the Latin school course was 73.3; one was seven years in doing the work in the grammar school, and his average for the Latin school course was 66.7.

Eighty-six pupils were graduated from the English high school last June. Of this number, seventy-six were graduates of the Cambridge grammar schools. Of these seventy-six, nine did the work in the grammar schools in four years, and their average per cent for the high school course was 75.7; twenty-seven did the work in the grammar schools in five years, and their average per cent for the high school course was 75.1; thirty-four did the work in the grammar schools in six years, and their average per cent for the high school course was 74.7; six were seven years in doing the work in the grammar schools, and their average per cent for the high school course was 74.3.

These results do not indicate as thorough preparation for high school work as is desirable, but they do show that there are some pupils who can do the same amount of work as others in less time, and do it as well or even better. If it is said that the pupils who spent only four or five years in the grammar schools should have remained longer, it would be equally true that the time should have been lengthened for those who had been in these schools six years.

PRIMARY SCHOOLS.

The number of pupils in these grades on the first of December was one thousand eight hundred twenty-five, and the number of teachers was one hundred forty.

The cost of instruction for each pupil for the year has been \$16.95. This does not include the cost of supervision or the cost of the Wellingborough school.

For non-resident pupils the tuition is \$20 a year, payable in advance,—one-half at the beginning and the other half at the middle of the school year.

The course of study is for three years. Children five years old are

admitted to the first grade at the beginning of the school year and during the first week in March. Pupils qualified to join existing classes may be admitted at any time on application to the principal. At the present time, 41 per cent of the pupils are in the first grade, 31 per cent in the second, and 28 per cent in the third.

One thousand four hundred sixty pupils graduated last June at an average age of nine years six months. Of these, 5 per cent completed the course of study in less than three years; 62 per cent in three years; 4 per cent in three years and a half; and 29 per cent in four years or more.

Promotions from grade to grade in the primary schools, and from the primary to the grammar schools, are made by the primary teachers, under the direction of the supervisor of primary schools and the superintendent. Promotions by classes are made annually at the beginning of the autumn term; but individual promotions are made at other times if it is deemed expedient by the supervisor of primary schools and the superintendent.

Pupils are promoted to the grammar schools on trial, and those who show by their work that they are unprepared are returned to the primary schools on the approval of the supervisor of primary schools and the superintendent.

Once a month the teachers of each grade meet the directors of special studies and the supervisor of primary schools. These meetings are held in the English high school building on Wednesday afternoons, half an hour after the close of the schools. The work for the coming month is planned; criticisms and suggestions in regard to methods are made; and questions from the teachers are answered and discussed.

Occasionally specimens of written work from all the pupils are brought for examination. In this way the amount of work done in the schools is made somewhat uniform; new teachers are kept informed as to the requirements, and pupils lose less time when a change of teacher or school becomes necessary.

The supervisor of primary schools writes in regard to primary reading, absences from school, and the stamp savings system, as follows:—

While realizing the value of the grade reader in the systematic teaching of a vocabulary, there is a growing feeling that the mechanics of reading can be taught with the aid of a few carefully selected readers, and that more time should be spent in the reading of books which give special information or have a claim to be classed as standard literature. Single sets of such books have been placed in the primary schools for the use of any grade or group of children who have acquired the power to read them with profit.

A careful study of the conditions which prevent children, in spite of faithful teaching, careful grading, and every facility for individual promotion, from completing their primary course in three years, shows that a large number of those who fail of promotion have lost time in the first grade by frequent absences during the year, which are not due to contagious diseases or to those common to childhood. Another cause may be the large number of children over ten years of age in the second or third grade whose necessities seem more urgent than those of the younger children, and who, for this reason, take most of the time which the teacher can spare for individual instruction. Were some way provided by which these children, who are too old for the associations of the primary grades, could be taught in ungraded classes, much time would be saved for the benefit of the younger children. The best remedy would be for parents to realize the importance of a year in the early part of a child's life. It counts for as much time as in the higher grades. There are bricks at the top of the tower, there are bricks at the bottom of the well — yet both are bricks."

A system of stamp savings in connection with the schools was begun in May, 1897. There are at present nine stations in the primary and grammar schools, with a sub-station in one of the kindergartens. During this time there have been five thousand five hundred depositors, of whom one thousand five hundred fifteen still remain on the lists. The deposits aggregate \$7,355.98, of which \$1,437.91 has been added this year.

Much of the money is withdrawn before the end of the year, but usually for necessary expenditures sanctioned by the parents. The capital required to care for these stations has been furnished by various organizations and individuals, and the collections are made by members of a committee who work directly with the children.

The chairman of the committee on stamp savings, Miss M. L. Drew, writes in her report as follows:—

It is the first aim of the committee that the stamp savings work shall lay no additional burden upon the teachers, but rather that, while serving the children directly, it shall add something of interest to school attendance, and help indirectly in the order of the schoolroom. It is interesting to note how important a part the personal element plays in this work, especially the personal enthusiasm and encouragement of the teacher. By a careful comparison of actual figures, it is found that where, for one reason or another, the regular routine is disturbed, there the interest among the little savers lags and savings grow less. On the other hand, if an interested teacher occasionally reminds his children of "bank day," or speaks an approving word on the project, or himself saves with the children, increased returns are sure to follow.

KINDERGARTENS.

There are fourteen kindergartens. The number of pupils on the first of December was seven hundred twenty-two, and the number of teachers was twenty-five.

The cost of instruction for each pupil for the year has been \$26.17. This does not include the cost of supervision.

The following in part is from the report of the committee on kindergartens:—

Miss Harriette E. Ryan, principal of the Shaw kindergarten, has been granted a year's leave of absence for study, and Miss Leonice S. Morse, the assistant, is acting principal. Miss Della E. Cabot has been appointed assistant for the school year. Mrs. Ellen A. Watson resigned from the Willard kindergarten and Miss Alice V. McIntire, who had been acting as principal, has been appointed to the position. Miss Anna M. Gage has been made assistant.

To be eligible to the position of teacher in a kindergarten a person must now have had a course in a high school, a course in a kindergarten normal school, a year's experience in teaching in a kindergarten or a primary school, and must be able to play the piano.

To meet the new requirements of a year's experience, a class of kindergarten graduates was received as members of the Wellington training school, and placed in the first primary grades and kindergartens in other schools to help the regular teachers, and to act as substitutes when needed in the kindergartens.

The number of applicants for positions in kindergartens far exceeds the number of places to be filled. An opportunity is now given for kindergartners to get experience in primary work and thereby become eligible to an appointment to the first grade of a primary school.

Students in kindergarten normal classes are given opportunities to observe during their two years' course, and are allowed one month's experience in the first primary grade, but it is not deemed expedient for them to observe after graduation.

Teachers in kindergartens are to use their afternoons in visiting the homes of their pupils, with a view of maintaining friendly relations with the parents and of securing regularity of attendance, except when the time is needed for preparation for their work, and they are to make monthly reports on blanks prepared for the purpose. The average number of visits made by both principal and assistant to homes of children is about one hundred fifty.

There is special need of a new kindergarten in the Parker school. This school is cut off from the rest of the city by the tracks of the Grand

Junction R. R., and many mothers who would send their children as far as the distance to the nearest kindergarten, fear the danger of the crossings.

The number of children on the waiting list of our several kindergartens is so large that the committee deem it wise and expedient to hold afternoon sessions in two of the kindergartens already established.


The mothers' clubs are so well established that some of them are seeking to extend their work. The club connected with the Riverside school and kindergarten supported last summer a vacation kindergarten for four weeks. Another club interested itself in the school for crippled and deformed children; and all the clubs show in many ways the deep interest which they feel in the welfare of the kindergartens with which they are associated.

The Cambridge kindergarten association, composed of the kindergarten teachers, meets once in two months. At each meeting a paper is read on some important educational subject.

The following taken from the report of the Board of Education to the commissioners of the District of Columbia, will be of special interest to those who are seeking information in regard to the scope and purpose of the kindergarten system : —

“It is vastly important that the child at a period when impressions are most vital and lasting should see life not as so many detached wholes — a little piece here, another unrelated there — but as one great whole, made up of members interdependent and interrelated.

The kindergarten programme begins with the family, the first institution into which the child enters, and leads out from the known to the unknown. From the human family it is but a step to its natural analogue, the families of a lower order in nature, and the child sees his own life reflected in the nurturing care of the mother bird for her young. He is led to notice the different kinds of homes in nature. Various nests are brought into the kindergarten and seed homes of many kinds. Songs, stories, games at this time relate to the family and to the child's new experience of separation from and return to his home. No conscious appeal is made to the child which would force these thoughts home by any well-drawn comparison. He is left to draw the conclusion himself, to perceive that families and groups exist in nature and that each created thing has its appointed place of habitation. From the family we lead out into the larger whole, the great institution of labor or civil society, relating this institution to the former, for it is here that we find the helpers of the family. Under this head are presented the activities of the working world which touch the child's life and which are therefore of interest to him. Farmer, miller, and baker are presented in turn, and the children



have the actual experience of making butter and bread and of visiting a bakery. At Thanksgiving they are taken to the market, that they may see the bounty of nature, the fruits of man's industry, how each is working for all and all for each. In each kindergarten room this year a corner was arranged with fruits, grain, and autumn flowers, and thus the simple Thanksgiving hymn was full of richest meaning and a real feeling of gratitude stirred toward God, the giver of all. An opportunity to become a bestower as well as a receiver of gifts is given by the Christmas festival, when each child makes a simple offering of his own work for those in his home.

After the holidays the new year itself is made the point of departure, and inasmuch as the new year is a period when new resolutions are formed, we lift up into a conscious place the virtues of punctuality and order, virtues which are distinctly necessary for the preservation of the social order and which arise out of that relationship.

As the mission of the kindergarten is to awaken the elementary ideas and affections and to arouse the impulse to work from within, we do not wish the children to see order as an iron rule, external, compulsory, but as the 'kindly law which guides the universal round.'

Children are never allowed to be tardy in kindergarten. There is a stated time for each exercise. Materials are always ready for use before the children assemble, and in every detail, however small, they are led to observe 'the reign of order.'

As light is the great revealer of order in the universe, and as the heavenly bodies mark the divisions of time, we next present the songs of light, the sun, the moon, and stars.

No abstract astronomical facts are taught. Questions are answered correctly, so that false ideas may be dispelled and the children started along the paths of accurate thinking. Our object is to stir the wonder, the interest; to stimulate the desire to know; to give seeing eyes.

February, with its birthday of our national hero, gives us the State for our point of departure, and our programme begins with those who render lowly service and leads up to the personal hero, George Washington. It includes the knight or ideal soldier; soldier games and songs; flag songs, and, whenever possible, a visit to the Capitol, that the children may feel the greatness of our country under its wide-spreading dome. They learn to love the flag and to carry it with care; patriotic stories and exercises are given, and thus the germ of truest citizenship is implanted.

The spring months are filled with the glad awakening of life, which is shown by varied illustrations and from many different standpoints. The awakening of the butterfly, the birth of the seeds, the return of the

birds and nest building, and the growth and evolution of life everywhere. Through the doorway of this returning life in nature, which finds its highest expression in the festival of Easter, we reach the climax of our programme in the song and old-fashioned picture of the church, taken from Froebel's Mother Play. This picture is supplemented by modern illustrations of churches and cathedrals, furnished by the teachers or brought by the children.

The weeks which follow complete the cycle of the year's programme returning to the thought of the home in the nest building of the birds, the work of the carpenter or home builder, and finally closes with the making and furnishing of tiny homes by the children.

From this necessarily brief sketch it will be seen that the work of the year is an organic whole and the outline plan logically related to this whole; that the daily programme is not a hit or miss scheme of teaching amusing children too young for the primary grades, but that it is the result of definite, carefully prepared lessons, intended to develop a comprehensive, educational plan."

SPECIAL STUDIES.

The committee on special studies has the supervision of the instruction in nature study, drawing, music, physical training, and sewing.

NATURE STUDY.

The work in nature study includes the study of plant and animal life with some study of minerals and of weather phenomena.

The study of plants was first undertaken, and still makes up the larger part of the work. The study of animal life consists mainly of lessons on insects and birds. The mineral work is confined to lessons on common metals and on building stones.

Plants are studied in grades one to four inclusive; insects in grades one and two; birds in grades three and four; weather phenomena in grades one to three inclusive; and minerals in grade four only.

Specimens chosen for study are those in which the pupils have a present interest, and all work is based on present experience. It is kept well within the capabilities of children, yet novel enough to require their best effort. Wherever it can be made to blend with other lines of school work, this is done.

The results sought are increasing knowledge of facts gathered by observation; familiarity with environment; and a growing sympathy with nature.

The following is from the report of the director of nature study to the supervising committee:—

One year ago the course in nature study was revised to meet new conditions and new requirements. The course as revised has been used unchanged this year.

In September the pupils of the first grade studied the wild flowers which they were able to find; in October, the autumn leaves; in November, the fruits found in near-by markets; in December, the evergreens. These gave place in the spring to buds and seeds, and later to the early wild flowers.

The second grade reviewed and extended the work of the first year, finding new specimens and new facts in regard to them.

The third grade was able to do more thoughtful work, grouping and comparing the specimens studied. In the grammar grades some study of minerals during the winter, and of birds and their nests in spring and fall was introduced.

All lessons have been arranged with reference to the changing seasons, and all specimens used have been those appropriate to the time of year. In each month, one thought has been made a centre about which to group all the lessons of the month. This thought changes with the grade, so that there is no sameness in the work. Each lesson is based on one that has been given, and leads up to one that is to follow. There is, therefore, a sequence and a grading in the work.

Efforts are made to bring material for nature study nearer to the pupils in their home and school life. Plants growing in the schoolrooms, window boxes at the windows, and gardens in the school yard are helps toward this end. The habit of examining specimens is being formed in the pupils. Even in the entering classes we find evidences of work done in imitation of older brothers and sisters. More voluntary work outside of school is undertaken. There has been a marked increase in the number of gardens planted and cared for at home, and in the number of specimens brought in after a country visit. Much of the best work has been done by classes that have been taken out of doors for their nature lessons. The number of such classes has been increased each year. The habit of studying and enjoying nature is becoming fixed among the pupils.

DRAWING.

The course of instruction in drawing in the primary and grammar grades includes, form, color, and designing.

The study of form, by means of type models and drawing, is begun

in the first primary year, and is succeeded in the grammar grades by object drawing, drawing with instruments, and drawing from nature. This last subject receives especial attention during the spring and autumn months.

Color is studied in all the grades, colored tablets being used in the primary grades and water colors in the grammar grades. Harmony and mixing of colors are treated as a science in special exercises; while color skill is artistically expressed in original designs, historic ornament, and nature study.

In design, attention is given both to construction and decoration, embracing a large variety of subjects.

In the English high school, drawing is a required study the first year, and is carried forward upon a plan of which the following is an outline:—

Drawing from objects and from casts, drawing from nature of plant form, drawing to scale, designing (constructive and decorative), and color harmony.

Drawing, designing, or water-color painting, may be taken as an elective study after the first year. The course of lessons includes landscape, still-life, and advanced designing.

In the English high school, the instruction in drawing is given by the director of drawing and his assistant. In the primary and grammar grades, it is given by the teachers under the supervision of the director and his assistant.

In the Rindge manual training school, there are two teachers of drawing, one of mechanical drawing, and the other of free-hand, and the work is done under their immediate instruction.

The following is from the report presented by the committee on special studies:—

Mr. Roos, director of drawing, reports that since the Board abolished the use of drawing books, there has been a steady development in practical exercises in form drawing, in color study, and in correlated drawing and designing. That the present course is well adapted to the growing powers of the children is proved by the work shown in the schools and school exhibitions. The teachers have without exception labored intelligently and faithfully to make the work a success.

He recommends that in the new schoolhouses, and, if possible, in those now in use, a room on the upper floor having ample light from one direction, preferably from the north, shall be set apart for drawing for all the classes in the school, and that here may be gathered specimens illustrating art, with instruments and materials to be used in this branch of study.

Mr. Roos meets a class of teachers for art study at the English high school every Monday evening during the time of the sessions of the evening schools. The class numbers sixty-two this year, an increase of nine over last year. This furnishes opportunity for improvement in methods of instruction. He recommends that a diploma be given to members of this class on the completion of prescribed courses.

The committee calls attention to the admirable course in art study prepared by Mr. Roos by means of the cyclostyle, and furnished to the teachers almost without cost to the city. A copy of this course can be seen at the office of the secretary of the Board.

The director of drawing not only supervises the work of the evening schools but is present during the sessions of these schools. Miss Lucia N. Jennison, assistant in drawing, supervises the work in the primary schools, and teaches classes in the English high school Wednesdays and Thursdays.

MUSIC.

Instruction in music by the National or Mason system is given by the regular teachers in the primary and grammar grades under the supervision of the director of music and his assistant. In the high schools it is given by the director. Every pupil who is capable of learning to sing is required to give attention to the subject.

In the Latin school and English high school, forty-five minutes a week are given to the study of musical form and expression as found in choruses, quartettes, etc., from the standard operas and oratorios. Elementary harmony, counterpoint and composition have been introduced as elective studies for the second and first classes, and boys as well as girls having a special aptitude for music are the ones who naturally elect these studies, the only requisite being some knowledge of the pianoforte.

The students are instructed in scale formation, intervals, a logical and comparative view of all true chords, in order to give them the power to construct and resolve these chords for themselves.

The study of harmony is carried well into modulation, and of counterpoint through four simple orders or species, including both the major and minor modes. Harvard College has recently passed a vote allowing a knowledge of harmony to count in an entrance examination to the Lawrence Scientific School.

Two periods each week are devoted to instruction, and occasionally the best compositions of the students are sung or played before the entire school; in this way showing the practical side of the work which will prove an important factor in future teaching.

In the Rindge manual training school the young men are taught to

sustain their parts unaccompanied, in compositions of four-part harmony, (first tenor, second tenor, first bass, and second bass) the music being selected and arranged from the standard oratorios, operas, and part songs. Forty-five minutes a week are given to the subject, as in other schools.

Fifteen minutes a day in primary, and ten minutes a day in the grammar grades, are devoted to this study; and pupils in the grammar grades are taught to sing and sustain their parts in reading compositions in two, three, and four parts.

Memorizing music is a feature in all the grades, including the high schools, and in all graduating exercises it is expected that the music by the pupils will be sung or played without notes. To this end rote singing in all the schools forms a part of the instruction in reading music.

The committee reports that the work in music has continued along the same lines as in previous years. Miss Georgia E. Martin has been appointed to aid the director of music in the primary grades, and to his duties has been added the instruction in music in the Rindge manual training school, Mr. Briggs, who had taught music in that school since 1894, having resigned.

PHYSICAL TRAINING.

The Ling system of physical training is used in the primary and grammar schools. Seven grades are regularly supervised, the classes of the eighth and ninth grades being supervised only when special request is made by their teachers.

Ten minutes are given each day to the work in the grammar grades and fifteen minutes in the primary grades. The instruction is given daily by the regular teachers in the different class rooms, under the supervision of the director of physical training, who visits each schoolroom as often as time will permit, and who also meets the teachers for special directions from time to time.

During the months of September, October, November, April, May and June, the primary classes have the privilege of out-of-door recesses, gymnastics forming a part of the daily programme during December, January, February, and March only.

Games and marching are freely used until the third year, when a stronger emphasis is placed on formal gymnastics. Games are also frequently used in the lower grammar grades.

The essential aim of the teaching is to make the period one of healthful exercise and recreation, and also to counteract in part the

tendency to spinal curvatures and flat chests caused by sitting so many hours a day at the school desks.

The following is from the report of the director of physical training to the supervising committee:—

Very few changes have been made during the past year in the matter of seating the pupils in a more hygienic manner. The few conspicuous cases where a large percentage of the pupils in the class was uncomfortably seated have been remedied.

It is a matter of regret that a number of classes in the new Washington school are obliged to use furniture of a very old style, renovated, it is true, but too large for many of the occupants. The new building itself, however, is a model in respect to light and fresh air.

For the third time I report the inadequate provision for lighting the rooms of the Stearns school occupied by grades two and three. These rooms are in the front of the building having windows on either side but none on the front or back. On either side is a high brick structure effectually shutting out nearly all the light from the lower rooms on a dark day. For the sake of the health of the children obliged to sit in these rooms and strain their eyes during the dark winter days, it is hoped that some action to remedy this will soon be taken.

Out-of-door recesses have been a part of the daily programme in nearly all the primary schools from the first of April to the first of December. The teachers report that the pupils return to work with freshness and renewed zeal after these few minutes of freedom in the air and sunshine.

The following facts are also gathered from the report:—

During the months when the primary schools have out-of-door recesses, the director of physical training is able to give ten-minute lessons every two weeks to the grammar grades, instead of longer lessons once in five weeks, which is all that is possible at other times. She finds that the more frequent and briefer lessons are more satisfactory to teachers and pupils.

Through the kindness of Miss Homans, director of the Boston normal school of gymnastics, five of our teachers have the benefit of instruction in that school one hour each week without charge.

A public demonstration of the work in gymnastics was given at the Latin school gymnasium in May by pupils from the sixth grade, two pupils being selected from each class of that grade. An audience of about three hundred witnessed the exhibition, which was enjoyed by the children as well as by their elders. Demonstrations have been held before the teachers in six of the schools, and others are to be given. It is proposed to hold another public demonstration in March, when it is hoped that the sixth and seventh grades will be represented.

The work in all the schools is running more smoothly than at any previous time; teachers and pupils are showing increased interest and desire for better results.

The director makes the following recommendations:— (1) That modern, adjustable furniture be purchased to replace much of that now in use. (2) That all new buildings have a large room on the ground floor for gymnastics and games. (3) That the "Day's Orders" be printed in a convenient form for the use of the teachers. (4) That an increase of five minutes per day be allowed for gymnastics, so that seventy-five minutes a week, instead of fifty minutes, may be devoted to this subject. (5) That more frequent visits be made by the school committee during the period devoted to gymnastics.

SEWING.

Sewing is taught to the girls of the three lower grades in the grammar schools, and to the boys of the fourth grade who desire the instruction. Forty minutes are given to the work once a week in each grade. All the boys are learning to sew, the regular teacher having oversight of their work. The first lessons in sewing are spent in learning the use of the thimble and needle, in threading the needle, making knots, and fastening ends. Running stitches are made during this time on ruled pieces of cloth. Neatness is insisted upon from the beginning. Stamped patterns of stars or circles are worked in running stitch by the more forward. Then basting by measure is taught. Measuring cards are provided for this, and the stitches are made one-half inch in length, with spaces of one-eighth of an inch. All work is upon practice pieces, with colored thread. The first piece has three lines for running stitches and two for basting.

The second practice piece is of double cloth and has two lines of basting. On this piece stitching is taught, the children imitating machine stitching as nearly as possible. Two lines are done by all, and four lines by the best sewers, who also stitch their initials in the centre.

For the boys' sake, buttons are brought from home to be sewed on. Strips of cloth for this are basted by those who finish stitching before the others. The shoe button comes first as the simplest, then the two-holed button, then the four-holed. This is the kind of sewing most liked by the boys.

Those who first finish buttons baste strips for overhanding. This is the last stitch taught in this grade. Those who wish, bring pretty pieces of cloth and make pin-balls. The boys who finish their other work in time for this make excellent ones. At the end of the year the boys take home all their work. The girls keep theirs for reference the next year.

The work in the fifth grade begins with folding and basting the model pillowcase. All overhanding strips left unfinished the previous year are finished now, and the pillowcase overhanded. To save time, overcasting is taught directly upon the pillowcase. Folding and basting hems is taught upon a practice piece, a half inch hem on one edge, and a quarter inch hem on the other. On the pillowcase an inch hem is used. After the practice piece, the pillowcase is hemmed and taken home to be washed and ironed. The good sewers are able to complete this in half a year. The next work is making a model apron of calico. The rule for gathering is copied upon paper, and then practiced upon cloth with attention to proper position of the hands. Stroking gathers follows, and the rest of the year is required for making the model apron. Those who finish the year's work take home all practice work of the two years. For extra work the girls learn hemstitching. Occasionally large pillowcases are made by those who sew rapidly, but the work required demands all the time of the average child.

During the first term in the sixth grade those who completed the fifth grade work are taught to make buttonholes, while the others finish their model aprons. After vacation all begin together upon darning on canvas. This being finished, they learn to run a thin place in stocking material, and then to darn a hole. When the darning is finished, buttonholes are taken up again, and then matched patching. Those who have time for extra work practice feather stitching. Throughout the course great care is taken in securing the ends of the thread in beginning, joining, and fastening off. The work now requires the services of two teachers besides that of the director.

The following is the course in sewing: *Fourth Grade.* Running, basting, stitching, sewing on buttons, overhanding, and making pin balls. *Fifth Grade.* Hemming, overcasting, model pillowcase, gathering, stroking gathers, and model apron. *Sixth Grade.* Buttonholes, darning on canvas, darning a thin place in stocking, darning a hole in stocking, and matched patching.

SCHOOL LIBRARIES AND THE PUBLIC LIBRARY.

The English high school has a library of about three thousand volumes. The Latin school has only about one-third of this number. Comparatively few books of a miscellaneous character have been added to these libraries for several years, the public library meeting the demand for such books. The need of the schools is for books of reference and for sets of books for class study.

The grammar schools, with the exception of the Morse and Webster, are not supplied with books for general reading. These are obtained from

the public library, and during the year six thousand thirty-five books have been delivered to the schools. Last year the number was nearly nine thousand. The following from the report of the librarian to the trustees of the Cambridge public library shows why the number is less than last year:—

“The decreased appropriation made for the library in the budget of this year, after we had already lived several months on the basis of last year’s expenditure, necessitated a reduction in our expenses and resulted in the closing of our local delivery stations.

As the delivery of books did not cease until the end of May, the schools were not materially affected until the beginning of the present term. An arrangement has recently been made for sending books to the schools by express once in two weeks, and the expense is borne by the school board. It should be a source of great gratification to us that the school work can go on, even though under somewhat less favorable conditions; for the total severance of relations between the schools and the library would be the greatest misfortune that could result from the abandonment of outside deliveries.”

The educational value of the public library is well stated in the following paragraph from the report of the trustees for the past year:—

“The library is an important part of our educational system. Its scope is broader and its clientage larger than those of the public schools. No institution supported by the money of the people is more democratic, in the best sense of the term. Its advantages are free to every man, woman, and child who can read. It is a supplementary department of every school, public or private, in the city, from the lowest grade to the highest,—a school for the teachers as well as the pupils. It is the high school for those who cannot continue their studies beyond the grammar school, and for those of mature age who had few opportunities for school training in their early years. It is the evening school, open every day, Sundays not excepted, for those who cannot attend the regular evening schools on account of their fixed hours and courses of study. It is the industrial school for the working man who has no other means of self-culture in his special craft. Its advantages are eminently for those who are least able to get them elsewhere,—who can buy few books and take few periodicals, but are here supplied with both in abundance; and the cost of it is paid almost entirely by those who are least dependent upon its resources.”

EVENING SCHOOLS.

The following account of the evening schools is given by Mr. Hubbard, the agent of the school committee, who has the general supervision of these schools : —

There are seven evening schools — two drawing schools, one high school, and four elementary schools. In accordance with the rules of the school board, there are two terms of the evening schools. The first term begins on the second Monday of October, and continues every Monday, Wednesday, and Friday evening until the end of the week before Christmas. The second term begins on the first Monday, Wednesday, or Friday evening after the opening of the day schools in January, and continues thirty-five evenings. The sessions begin at half past seven and continue two hours. No session is held on the evening of a holiday, or during the vacations of the day schools.

The evening drawing schools are under the supervision of the director of drawing for the day schools. There are two of these schools, one for instruction in mechanical drawing, which occupies four rooms in the Central Square building, and one for instruction in free-hand drawing, which occupies the drawing room in the English high schoolhouse. In the mechanical school two courses are provided, — a three years' course in machine drawing, and a three years' course in architectural drawing. In the free-hand school provision is made for a three years' course in free-hand drawing. Diplomas are given to graduates of either course.

The evening high school is held in the English high school building, and offers a three years' course of instruction in the following subjects: arithmetic, bookkeeping penmanship, English composition, English literature, civics, history, algebra, geometry, stenography, Latin, French, and German. Diplomas are granted to graduates of the three years' course.

The elementary evening schools occupy rooms in four of the grammar school buildings, the Putnam, Roberts, Shepard, and Webster. Reading, writing, arithmetic, geography, language, history, and bookkeeping are taught in these schools in classes, so far as classification is possible, but a large part of the work is individual. No definite course is arranged, but an opportunity is offered to pupils to prepare to enter the evening high school, and certificates of admission are given to those who are qualified to begin the work in that school. In addition to the subjects given above, classes in civil service, sewing, wood working, and mechanical drawing are formed when a sufficient number express an intention to take any one of these courses.

The following table shows the attendance of the evening schools for the year 1901-1902:—

	Number Registered	Average Attendance	Average No. of Teachers*	Average No. of Pupils to a Teacher.	Number of Graduates
Mechanical Drawing...	140	76	4	19	15
Free-hand Drawing....	80	38	2	19	7
High School.....	364	162	9	18	14
Allston School.....	374	127	11	11	28
Putnam School.....	278	85	8	11	10
Shepard School.....	189	61	6	10	17
Webster School.....	162	75	6	13	12
Total	1,587	624	46	14	103

* The principals and curators are not included in these averages.

The following table shows the cost of the evening schools for the year 1901-1902:—

	Cost of Instruction	Cost of Text-books and Supplies	Cost of Light, Fuel, and Janitor	Total Cost	Cost per Pupil
Mechanical Drawing...	\$868 00	\$76 79	\$208 38	\$1,153 17	\$15 17
Free-hand Drawing....	430 00	35 69	74 17	539 86	14 21
High School.....	1,682 75	101 90	685 63	2,470 28	15 25
Allston School	1,122 50	151 36	317 73	1,591 59	12 53
Putnam School.....	878 00	49 08	311 51	1,238 59	14 57
Shepard School.....	597 00	21 53	152 85	771 38	12 65
Webster School....	621 00	9 06	212 93	842 99	11 24
Total	\$6,199 25	\$445 41	\$1,963 20	\$8,607 86	\$13 79

The above table shows that the total registration of the evening schools during the year 1901-1902 was one thousand five hundred eighty-seven, an increase of one hundred eight over that of the preceding year, and the average attendance was six hundred twenty-four, an increase of sixty-three. This shows that the average attendance is about 40 per cent of the registration, an increase of about 2 per cent above that of the preceding year.

The total cost of all evening schools has been \$8,607.86, an increase of \$109.14 above that of last year, but the cost per pupil was \$13.79, a decrease of \$1.35 per pupil on the average attendance.

The fire in the Allston schoolhouse occurred December 12, 1901, breaking up the evening school for a time and thus reducing the average

attendance, but the school was soon reorganized in the Roberts school building where it still holds its sessions.

During the first term of the schools for 1902-1903 the total registration to December 1 was one thousand six hundred eighty-seven, an increase of one hundred seventeen. The average attendance was nine hundred eighty-one, an increase of ninety pupils, with an average of fifty-four teachers, or of two more teachers than last year.

At the meeting of the Board in June the salaries of teachers in the evening schools were fixed as follows:— Principals of the mechanical drawing and of the evening high school, \$4.00 per evening. Principals of elementary evening schools, \$3.00; teachers in the drawing schools, \$3.00; teachers in the high school, \$2.00, and teachers in the elementary schools \$1.50 per evening.

The committee on evening schools has adopted a rule that only experienced teachers shall be appointed to teach in these schools.

The lines of work of last year have been pursued this year successfully. Classification has been extended with decided advantage, and the schools are in excellent condition as regards attendance and interest in the work.

Recently an experiment has been tried in the Allston school with the purpose of increasing the attendance and interest in the school as well as giving instruction to its members. The last hour Friday evenings has been devoted to lectures, by citizens who were willing and well qualified to assist in the work. Dr. Putnam gave a lecture on "First Aid to the Injured", Mr. Bates, on "Citizenship", Dr. Bicknell, two on "Down in Dixie." Most of these lectures have been illustrated with the stereopticon. Mr. Getchell, the principal, has arranged with several other gentlemen to give lectures on various topics. The members of the school evince much interest in this line of instruction which is being employed in many cities in connection with evening school work.

The recommendation of the committee of last year that the Rindge manual training school be opened evenings for instruction to young men who are engaged in mechanical pursuits has not been acted upon. It seems a neglect of a valuable opportunity that this fine and costly plant should not be fully utilized for the benefit of our young men, many of whom were compelled to leave school at an early age. Opening this school for evening work would be of great advantage to such persons. For some years the city of Springfield has maintained what they term "Evening School of Trades" in which instruction is given in mechanical drawing, machine-shop practice, tool making, plumbing, joinery, wood turning, pattern making, mathematics for mechanics, with a lecture course in magnetism and electricity and some laboratory work in electricity.

that these classes are very popular is shown by an enrolment of about three hundred with the prospect of a very large increase next year if accommodations can be supplied. The Plumbers' Association has promised to give the preference to members of these classes when hiring help and the city is profited by the tools made by the class in tool making. Springfield has a population estimated at 62,000, a school population of 1,400, and a valuation of \$74,338,000, and she expended for her schools \$39,677 last year.

It is gratifying to note that more adults are in the evening schools this year. The attendance has been regular and the spirit of the schools earnest, though the work of the holidays has interfered seriously with the attendance during the last few weeks, as it does every year.

VACATION SCHOOLS.

The vacation schools for 1902 did not open at the usual time owing to the prevalence of smallpox in the city. About twelve hundred children expressed a desire to attend these schools, but arrangements had not been completed when the day schools were closed with only a half day's notice. Under these circumstances it was doubtful whether the vacation schools could be opened. Later it was decided to open a part of them. Classes in sloyd, cooking, and dressmaking were formed at the English high school building, and in sloyd and dressmaking at the Putnam building. The older pupils who took sloyd also had instruction in drawing, and the younger pupils in some academic study. The schools were in session from July 14 to August 20, and cost \$1,016.97, or an average of \$3.05 per pupil.

The following table shows the number that joined these classes and the average attendance in each class:—

Schools	Studies	Number Registered	Average Attendance
English High School.....	Sloyd and Drawing.....	96	51.6
English High School.....	Sloyd and Academic....	91	49.1
English High School.....	Cooking.....	58	36.8
English High School.....	Dressmaking.....	72	48.7
Putnam School.....	Sloyd and Drawing.....	95	69.2
Putnam School.....	Sloyd and Academic....	33	26.0
Putnam School.....	Dressmaking.....	96	52.1
Total.....	.....	541	333.0

TRUANT OFFICERS.

Four officers are employed. The city is divided into four districts, and each officer has assigned to him the schools in one district. Among their duties are the following: to visit each school at least once a day, unless otherwise directed by the agent; to prevent children from loitering about the school premises; to notify the teachers of all cases of contagious and infectious diseases reported by the board of health; to attend the evening schools when so directed by the the agent of the Board to assist in the preservation of order, and to visit places of business where children are employed to see that none are employed unlawfully. They make all complaints for truancy, absenteeism, or school offences at the district court, attend the trials as witnesses, and take boys to the Middlesex county truant school when they are sentenced.

By the rules of the school board the work of the truant officers is done under the supervision of the committee on schoolhouses; and under the direction of this committee, it is the duty of the agent of the Board to consider all cases of truancy, of persistent violation of the rules of the school, of juvenile vagrancy, of unlawful detention from school, of neglect by parents; and of any failure on the part of pupils or parents to comply with the rules of the school committee or the public statutes relating to school attendance. It is also the duty of the agent to direct the officers to make complaints; to certify the records in these cases when presented before the district court; and to exercise such supervision of the boys who are sent by the court from Cambridge to the truant school as may be allowed under the statutes.

The following is from the report of the committee in charge of the work of the truant officers:—

The four officers have performed their various duties in an efficient and satisfactory manner. They have investigated fourteen thousand one hundred forty-six cases of absence, made two hundred forty-three visits to factories, shops, and mercantile establishments, put one hundred children into school who had failed to enter, made twenty-six complaints in court for various school offences, and have taken twenty boys to the truant school.

Of the twenty-six complaints made, twenty-two were for truancy, one for absenteeism, and three for being habitual school offenders. Five of the boys complained of were put on probation, one left the city, and twenty were sentenced to the truant school,—five for one year and fifteen for two years each. Of the twenty boys sentenced, fourteen belonged to the public schools, and six were members of parochial schools.

Cambridge had thirty-six boys in the truant school December 1, 1901. Twenty-three have been discharged, and twenty sentenced during the year, leaving thirty-three in the school. These boys have cost the city for board, clothes, transportation, etc., \$1,847.10, an average of \$51.31 each.

The authorities of nearly all the parochial schools have co-operated with the agent in efforts to prevent truancy and with excellent results.

The truant officers with five assistants have canvassed the city for the school census required by the public statutes. The cost of assistance in taking and recording the census was \$230. This work seriously interferes with the other duties of the officers, as boys who delight in truancy seem to know intuitively when the officers are off duty, but there appears to be no other way without considerably increasing the expense of the census. The following is the summary of the school census for 1902:—

Number of children in the city between five and fifteen, boys, 7,656; girls, 7,931	15,587
Number in public schools between five and fifteen	12,324
Number in private schools between five and fifteen	2,764
Number not attending school between five and seven	199
Number not attending school between seven and fourteen	95
Number not attending school between fourteen and fifteen	205
Whole number not attending school between five and fifteen	499
Number in the city between five and six	1,892
Number in the city between seven and fourteen, boys, 5,276; girls, 5,558	10,834

It appears from statistics procured by one of the truant officers that there are eleven private schools in Cambridge, which contain three hundred eleven pupils and receive \$40,020 for tuition, and five parochial schools having three thousand one hundred forty pupils; making three thousand five hundred forty-one pupils attending other than the public schools.

In connection with the subject of attendance, the agent reports that the system of reporting absences and tardiness by the schools to the agent under Section 77 of the Rules, and the system of notification by him to the parents have been continued even more generally than last year, and have been adopted to some extent by the parochial schools.

The number of first notices sent to parents or guardians is five hundred ten; the second notice has been sent to eighty-three; and the third notice, which requests the parent to come to the office, has been sent to thirty-two. The system seems to be helpful in securing regular attendance. The per cent of attendance for three years is as follows:— For 1899-1900, 91.8; for 1900-1901, 92.1; for 1901-1902, 92.8. This shows an increase of one per cent since the introduction of the present system of supervision.

Age and schooling certificates have been issued to five hundred seven children between the ages of fourteen and sixteen, an increase of one hundred twenty over last year. March 13, 1902, the legislature passed a bill requiring that all minors who are working should have a certificate from the school department of their ability to read and write. Since October, three hundred forty-two of these certificates have been issued. Certificates have also been issued to twelve who could not read English, though most of them could read in their native language. The certificates given to these require that they attend the evening schools.

CONTAGIOUS DISEASES.

In 1894 the board of health, in accordance with the request of the school committee, appointed a physician, whose duty it is to examine all cases of contagious diseases reported, and to direct the exclusion from the schools of all pupils whose presence will, in his opinion, be a menace to the health of others. He reports his action on every case to the secretary of the school committee. The physician issues all certificates authorizing such children to return to school, as provided by Chapter 496, Section II., Acts of 1898.

As a further precaution against contagious diseases, the board of health established, February 26, 1896, a system of medical inspection of children in the schools. The city was divided into six districts, in each of which a physician was appointed to visit the schools in that district. The duties of these physicians as now defined are as follows: to visit the schools subject to their inspection during the morning session of every school day; to examine such children as are indicated to them by the teacher as having complained, or as appearing to be suffering from disease; to inspect such other children or such parts of the building as they deem necessary for the protection of the pupils, examining at least one school each day; to recommend to the principals to send home immediately any pupil whom they may suspect of having any infectious or contagious disease, and also, in cases of nearsightedness or deafness of pupils, to advise the parents to have the eyes or ears of such pupils examined. On the first of each month, the physicians send a report of their work to the board of health.

Once each term it is the duty of the principal of each school to call the attention of the pupils to the following rule:—

“No pupil who has visited any apartment in which a person is, or within two weeks has been sick with smallpox, varioloid, diphtheria, or scarlet fever, shall be allowed to attend school until the expiration of two weeks after such visit.”

The agent of the school committee reports that during the year 1901-1902, the following cases of contagious diseases have been reported by the board of health to the office of the agent, and by the truant officers to the schools:—

Diphtheria, four hundred seventy-eight, a decrease of two hundred seven; membranous croup, thirteen, a decrease of one; scarlet fever, one hundred seventy-nine, an increase of eighty-one; smallpox, one hundred eighty-three, an increase of one hundred seventy-eight; measles, four hundred thirty-three, a decrease of one hundred six.

TERMS, HOLIDAYS, AND SCHOOL HOURS.

The school year is divided into three terms:—

The time for beginning the autumn and spring terms, and for closing the winter and spring terms, is fixed annually at the regular meeting of the committee in February. The autumn term ends December 23. The winter term begins January 2 (or the day after that celebrated as New Year's Day).

The holidays are Saturdays; Thanksgiving day, with the preceding day and the day following; the twenty-second of February; the nineteenth of April; Memorial day; the seventeenth of June; and in addition to these, for the high schools, Commencement day at Harvard University.

The sessions of the high schools begin at 8.30 A. M., and end at 1.30 P. M. The sessions of the Rindge manual training school begin at 8.30 A. M., and end at 2 P. M. These schools have a recess of half an hour in each session.

With the exception of the Russell school, the morning sessions of the grammar and primary schools begin at 9 and end at 11.45. The afternoon sessions begin at 2 and end at 4, except during the months of November, December, and January, when they begin at 1.30 and end at 3.30. The grammar schools have no outdoor recess. In the primary schools the principal may, at her discretion, substitute an outdoor recess for the period at present devoted to physical training. The sessions at the Russell school begin at 8.30 A. M., and end at 1.30 P. M.

The sessions of the kindergartens are from 9 A. M. to 11.50 A. M.

TEACHERS, APPOINTMENTS, RESIGNATIONS.

There are now four hundred seventeen teachers in the schools, thirty-nine of whom have been appointed during the year. Twenty-five have resigned, two have died, five have been given leave of absence for rest or for some special reason, and three are absent for study or travel, under the following rule of the school committee:—"Any teacher who has served in the city for ten years, may on recommendation of the superintendent and vote of the Board, have leave of absence for one year for purposes of study or travel, and may receive one-third of his salary, provided the amount in no case shall exceed five hundred dollars."

Since the adoption of this rule in 1896, fourteen teachers have had leave of absence for a year for purposes of study or travel,—six from the high schools, five from the grammar schools, two from the primary schools, and one from a kindergarten.

The number of resignations this year is larger than usual. Six resigned to accept positions in Boston. One was appointed a teacher in the Salem normal school, four received appointments in other cities, and four were married. Two teachers resigned after long and faithful service. Mrs. Augusta G. Mirick taught in the Putnam school for twenty years, and subsequently in the Gannett school for six years. Miss Sarah E. Stewart became a teacher in the Dunster school in 1867, and in 1870 was transferred to the Boardman school, her whole term of service being thirty-five years.

Of the teachers who died, Miss Mary G. Carpenter had taught in the Agassiz school for eighteen years, and Miss Jane Whoriskey, in the Gore school for ten years. Both of these teachers were devoted to their work.

Another teacher whose resignation will take effect the first of March has ceased active work in the schools. For forty-four years Miss Ada H. Wellington has taught in the Harvard school, filling the position known for these many years as that of master's assistant. For twenty-two years she was associated with Mr. Aaron B. Magoun, the first master of that school, and for a little more than twenty years with Mr. James H. Barrell who succeeded Mr. Magoun, and for nearly two years with Mr. Thomas W. Davis, the present master. During all these years Miss Wellington's strong personality has been felt in the work of the school; and her influence has followed her pupils into their later life.

Perhaps in no way can this influence be more clearly seen than in her successful efforts to replace the marble bust of Mr. Magoun, destroyed when the Harvard schoolhouse was burned. A few selections from the circular letter sent to the contributors to the second bust will show that

the former pupils of the Harvard school needed only a word from Miss Wellington to awaken anew their interest in the school and their loving remembrance of Mr. Magoun. These selections are also given that the school reports may contain the facts relating to the gift of the two busts of Mr. Magoun.

The following is an account of the loss of the first bust, and of its replacement by the second:—

“On the morning of March 21, 1899, the third story of the Harvard schoolhouse was totally destroyed by fire. The loss most deeply to be regretted was the bust of Mr. Magoun, as there seemed no possibility of replacing it. After a while, however, it became known that the plaster model from which it was made was in a perfect state of preservation in the home of Mr. George B. Magoun, in Babylon, L. I. This led to the hope that a duplicate might be made if funds could be procured. The plans which were so successful more than thirty years before were adopted. Appeals were made through the local papers, and personal letters were sent to more than two hundred of his pupils. In the responses to these appeals great encouragement was given to proceed with the work. The plaster cast was brought to Boston and placed in the hands of an expert marble worker for reproduction. The work was a perfect success, and September 9, 1902, the new bust was placed in its position of honor in the hall of the Harvard school. It stands in a niche in the wall, beneath which is a bronze tablet bearing the following inscription:—

IN LOVING MEMORY OF
AARON BUZZELL MAGOUN
FIRST MASTER OF THE HARVARD SCHOOL
APPOINTED 1838 RESIGNED 1881
GIVEN BY MR. MAGOUN'S FORMER PUPILS”

The account of the unveiling of the first bust is as follows:— “On September 9, 1875, a very enjoyable reunion was held, and the unveiling of the bust was enthusiastically received. It was placed upon a walnut pedestal on which was a white marble tablet bearing in gold letters this inscription:—

From the Scholars of 1838-1871”

The following is but a just tribute to Miss Wellington:—

“This paper is not complete without an allusion to the person whose services contributed in so large a degree to the production of both busts, the original and its successor. Without her strong personal interest in the work, the first bust might have taken form, but the second would have hardly been fashioned. All credit is due to Miss Ada H. Wellington-

ton, for twenty-two years associated with Mr. Magoun in the Harvard school, and whose connection with the school has continued until her term of service is even longer than was his. What she has accomplished in helping to perpetuate the memory of the first master of that school crowns her work of forty-four years of faithful service."

· QUALIFICATION OF TEACHERS.

A person to be eligible to the position of teacher in a kindergarten must have had a course in a high school, a course in a kindergarten normal school, a year's experience in teaching either in a kindergarten or a primary school, and must be able to play the piano; to be eligible to a position in a primary or grammar school, he must have had a course in a high school, a course in a normal school, and a year's experience in teaching; to be eligible to a position in a high school, except in the manual training department of the manual training school, he must be a college graduate. Equivalent preparation may be accepted.

When a teacher has been nominated for a position in a kindergarten or primary school, or for a position below that of principal or master in a grammar school or high school, two persons of experience among the teachers who are not connected with the school in which the nominee is to serve, are deputed by the superintendent to visit the teacher nominated and to examine him at work. Each person so deputed reports in writing to the superintendent; and these reports are kept on file by him, and are open to inspection by members of the Board only. For a nomination to a position in a high school, the superintendent, with the consent of the committee on high schools, may dispense with such examination, or may depute as examiners teachers connected with the school in which the nominee is to serve or persons not in the service of the city.

The committee on teachers considers all nominations made by the superintendent. They confer with the superintendent, consider the reports of the examiners deputed by him, make further inquiry at discretion, and report to the Board for final action.

Any nomination referred to the committee on teachers elapses at the expiration of four months, not counting the summer vacation. A person who has failed of confirmation is not to be nominated to a similar position within two years, except on the approval of this committee.

This committee inquires and reports to the Board in executive session, as to the success of any teacher in the employment of the city, when so requested by any member of the Board or by the superintendent; and no teacher whose success is under inquiry receives the regular increase of salary, except on the recommendation of this committee.

paration for the work of teaching as shown by years of study, experience as shown by years of teaching, are considered in fixing the of teachers at the time of their nominations.

der the direction of the superintendent, teachers may visit other to observe the discipline and instruction. They may be required l teachers' meetings or courses of instruction in methods of teach- one hour a week. Such meetings may be held on Saturday morn- ing term time or at such other time, not in school hours, as the endent may direct. Meetings in addition to those indicated above held by the superintendent or may be called by him, on request tors in special subjects.

SALARIES OF TEACHERS AND SCHOOL OFFICERS.

LATIN SCHOOL AND ENGLISH HIGH SCHOOL.

sters	\$3,000 00
Assistants	2,000 00
first year	1,200 00
an annual increase of \$50 until \$950, the maximum, is reached.	700 00
teachers, first year	500 00
“ second year and each succeeding year	600 00

RINDGE MANUAL TRAINING SCHOOL.

ster	\$3,000 00
Assistant	1,300 00
salaries range from \$700 to \$1,500	

WELLINGTON TRAINING SCHOOL.

ng Teachers (three) first year	\$2,500 00
“ second year and each succeeding year	900 00
Assistant, first year	1,000 00
“ second year and each succeeding year	800 00
of the eighth grade	900 00
of the seventh grade (one year's experience)	700 00
of the other grades	450 00
	250 00

GRAMMAR AND PRIMARY SCHOOLS AND KINDERGARTENS.

of grammar schools	\$2,000 00
ers, first year	1,000 00
an annual increase of \$100 until \$1,400, the maximum, is reached.	
Assistants, first year	800 00
“ second year and each succeeding year	900 00
of the ninth grade, first year	750 00
“ “ second year and each succeeding year	800 00
teachers in grammar schools, first year	700 00
“ “ “ second year and each succeeding	750 00
s of primary schools, first year	700 00
“ “ second year and each succeeding year	750 00
five dollars additional for each room under her supervision.	
of grammar and primary schools, and principals of kinders-ns, first year	\$450 00
an annual increase of \$50 until \$700 is reached.	

SUBSTITUTES.

The pay of a substitute teacher in a high school, who is employed temporarily, is \$2.50 a day; if employed one month or more, it is at the rate of \$500, \$600 or \$700 a year, the sum to be determined by the superintendent, who shall consider the experience of the teacher and the position to be filled, in fixing the sum.

The pay of a teacher who is employed temporarily as a substitute in a grammar school, a primary school, or a kindergarten, is \$1.00 a session; if employed one month or more, it is at the rate of \$450 a year.

EVENING SCHOOLS.

Principal of Mechanical Drawing School, per evening	.	.	.	\$4 00
Principal of High School	"	"	.	4 00
Principal of Elementary Schools	"	"	.	3 00
Teachers in Drawing Schools	"	"	.	3 00
Teachers in High School	"	"	.	2 00
Teachers in Elementary Schools	"	"	.	1 50

SPECIAL TEACHERS AND OFFICERS.

Director of Music	.	.	.	.	.	.	.	\$2,000 00
Assistant Teacher in Music	.	.	.	.	.	.	.	800 00
Director of Drawing	.	.	.	.	.	.	.	1,900 00
Assistant Teacher in Drawing	.	.	.	.	.	.	.	800 00
Director of Nature Study (three-fifths time)	.	.	.	.	.	.	.	1,000 00
Director of Physical Training	.	.	.	.	.	.	.	900 00
Instructor in Physical Training in the High Schools	.	.	.	.	.	.	.	700 00
Director of Sewing	.	.	.	.	.	.	.	700 00
Teachers of Sewing	.	.	.	.	.	.	.	600 00
Superintendent of Schools	.	.	.	.	.	.	.	3,500 00
Supervisor of Primary Schools	.	.	.	.	.	.	.	1,200 00
Agent of the Board	.	.	.	.	.	.	.	2,100 00
Truant Officers (four are employed)	.	.	.	.	.	.	.	1,000 00
Secretary of the School Committee	.	.	.	.	.	.	.	400 00
Page of the School Committee	.	.	.	.	.	.	.	25 00
Secretary and Librarian of the Latin School	.	.	.	.	.	.	.	600 00
Secretary and Librarian of the English High School	.	.	.	.	.	.	.	600 00
Secretary and Librarian of the Rindge Manual Training School	.	.	.	.	.	.	.	600 00

The following rules apply to special cases:—

Upon the recommendation of the superintendent and the committee on teachers, the salary of a teacher in a grammar or primary school, or of the principal of a kindergarten, may be increased from \$700 to \$750, provided such teacher has served at least one year. The number of teachers whose salaries may thus be increased is not to exceed one-third of the whole number of teachers in these grades.

Assistant teachers, that is, teachers not in charge of a room, are paid \$450 the first year, \$500 the second, and \$550 the third and each succeeding year; and, in the case of assistants in the kindergartens, \$600 for the fourth and each succeeding year.

MEMORY SELECTIONS.

One of the requirements in the course of study for the grammar schools is that selections of poetry and prose shall be committed to memory and recited, not in concert only, but by each pupil, and that they be written frequently from memory. For the primary schools the directions are as follows; — “Teach as a part of the regular exercises a few pieces of standard poetry, also quotations and maxims, and copy what is taught each term into a blank book.”

The committing to memory of choice selections of poetry and prose has been the practice in the schools of Cambridge for many years. The selections have been left to the teachers, the idea being that the best results would be secured when the teacher was free to select such pieces as were of special interest to her.

In former years the superintendent took special pleasure in listening to the recital of these pieces in the several schools, but in these recent years he has not found time to hear them. He decided, therefore, to ask that a copy of all the pieces learned during the school year be sent to his office. This was done, and during the summer vacation he spent days in reading these papers and noting the selections made by the different teachers. In fact he became deeply interested in the work, and the papers which were intended to give information as to what had been committed to memory also revealed to him in a measure the literary taste and judgment of the teacher. A great variety of pieces was selected and in most cases they were selections of real merit.

It was found, however, that frequently the same selection was made by teachers of different grades, the result being a loss to the pupils who had previously learned the piece. To avoid this in future the teachers of the several grades were requested to make a list of pieces which should be used only in the grade for which they were selected. The teachers of the lower grades were not to include in their lists any selection made for a higher grade. This required that the selections for the ninth grade should be made first. Grade meetings were called one after another, until a list was prepared for each grade. No teacher is restricted to the pieces selected for her grade. She can select from these selections the whole or a part of any piece, or choose other pieces with this limitation, that no piece selected for one grade shall be taught in another.

The course of study requires that at least two hundred lines be taught in each of the four upper grades, one hundred fifty in the fifth grade, and one hundred in the fourth grade.

FRANCIS COGSWELL,
Superintendent of Schools.

SELECTIONS FOR MEMORIZING.

(SELECTED BY THE TEACHERS OF THE GRAMMAR AND PRIMARY GRADES.)

NINTH GRADE.

The Chambered Nautilus, *Oliver Wendell Holmes*
 The Address at Gettysburg, *Abraham Lincoln*
 The Vision of Sir Launfal, *James Russell Lowell*

(Beginning with "What is so rare as a day in June?")

Recessional, *Rudyard Kipling*
 Old Ironsides, *Oliver Wendell Holmes*
 Thanatopsis, *William Cullen Bryant*

(Beginning with "So live that when thy summons comes.")

The Reply to Hayne, *Daniel Webster*

(Beginning with "Mr. President, I shall enter on no encomium upon
Massachusetts," or "While the Union lasts.")

Those Evening Bells, *Thomas Moore*
 Each and All, *Ralph Waldo Emerson*
 The Rhodora, *Ralph Waldo Emerson*
 Elegy Written in a Country Churchyard, *Thomas Gray*

(First sixteen stanzas.)

Nature, *Henry Wadsworth Longfellow*
 On His Blindness, *John Milton*

EIGHTH GRADE.

The Footpath to Peace, *Henry Van Dyke*
 The Daffodils, *William Wordsworth*
 To the River Charles, *Henry Wadsworth Longfellow*

Ode Recited at the Harvard Commemo-

ration, July 21, 1865, *James Russell Lowell*

(Beginning with "Life may be given in many ways," and ending with
"New birth of our new soil, the first American.")

Crossing the Bar, *Alfred Tennyson*
 The Concord Hymn, *Ralph Waldo Emerson*
 Selection from Hamlet, *William Shakespeare*

(Polonius to Laertes, twenty-two lines from "Give thy thoughts no tongue.")

Selection from an Oration, *Henry Cabot Lodge*

(Beginning with "It is a high honor to be governor of Massachusetts.")

Our State, *John Greenleaf Whittier*

Selection from an Oration, *Charles Sumner*

(Beginning with "There is the national flag!")

the Dandelion,	<i>James Russell Lowell</i>
Country,	<i>Thomas Smith Grimke</i>
(Beginning with "We cannot honor our country with too deep a reverence.")	

SEVENTH GRADE.

Waterfowl,	<i>William Cullen Bryant</i>
the Hymn of the Republic,	<i>Julia Ward Howe</i>
Home — Our Country,	<i>Oliver Wendell Holmes</i>
arable,	<i>James Russell Lowell</i>

(Beginning with "Worn and footsore was the Prophet.")

sachusetts,	<i>Anna Phillips Clarke</i>
ction from the Merchant of Venice,	<i>William Shakespeare</i>
(Portia's reply to Shylock, "The quality of mercy is not strained.")	
Snow Storm,	<i>Ralph Waldo Emerson</i>

(First ten lines.)

Winged Worshipers,	<i>Charles Sprague</i>
Love of Country,	<i>Sir Walter Scott</i>
(From the Lay of the Last Minstrel; Canto VI., sixteen lines from "Breathes there the man with soul so dead.")	

u Ben Adhem,	<i>Leigh Hunt</i>
Trailing Arbutus,	<i>John Greenleaf Whittier</i>
Legend Beautiful,	<i>Henry Wadsworth Longfellow</i>

SIXTH GRADE.

Ode. "The spacious firmament on high"	<i>Joseph Addison</i>
pendence Bell,	<i>Anonymous</i>
the Fringed Gentian,	<i>William Cullen Bryant</i>
Sculptor,	<i>George Washington Doane</i>
Landing of the Pilgrims,	<i>Felicia Dorothea Hemans</i>
on and Liberty,	<i>Oliver Wendell Holmes</i>
Builders,	<i>Henry Wadsworth Longfellow</i>
Christmas Carol,	<i>James Russell Lowell</i>
oe, Faith, and Love,	<i>Friedrich von Schiller</i>
Corn Song,	<i>John Greenleaf Whittier</i>
Pipes at Lucknow,	<i>John Greenleaf Whittier</i>
Three Bells,	<i>John Greenleaf Whittier</i>

FIFTH GRADE.

The Village Blacksmith,	<i>Henry Wadsworth Longfellow</i>
Paul Revere's Ride,	<i>Henry Wadsworth Longfellow</i>
The Arrow and the Song,	<i>Henry Wadsworth Longfellow</i>
The Barefoot Boy,	<i>John Greenleaf Whittier</i>
Nobility,	<i>Alice Cary</i>
The True Life,	<i>Horatius Bonar</i>
The Sandpiper,	<i>Celia Thaxter</i>
A Hymn. "O Little town of Bethlehem,"	<i>Phillips Brooks</i>
Little Brown Hands,	<i>Mary H. Krout</i>
Beautiful Things,	<i>Anonymous</i>
The Will and the Way,	<i>Anonymous</i>
Pure Cold Water,	<i>S. Jennie Smith</i>

FOURTH GRADE.

The Brook and the Wave,	<i>Henry Wadsworth Longfellow</i>
A Hymn. "While shepherds watched their flocks by night,"	<i>Nahum Tate</i>
Little Boy Blue,	<i>Eugene Field</i>
Barbara Frietchie,	<i>John Greenleaf Whittier</i>
Obedience,	<i>Phoebe Cary</i>
The First Snow-Fall,	<i>James Russell Lowell</i>
Take Care,	<i>Alice Cary</i>
A Gentleman,	<i>Margaret E. Sangster</i>
In School Days,	<i>John Greenleaf Whittier</i>
Children,	<i>Henry Wadsworth Longfellow</i>
Sir Robin,	<i>Lucy Larcom</i>
November,	<i>Lucy Larcom</i>

THIRD GRADE.

October's Bright Blue Weather,	<i>Helen Hunt Jackson</i>
The Pumpkin,	<i>John Greenleaf Whittier</i>
Selection from Snow-Bound,	<i>John Greenleaf Whittier</i>
(Beginning with "The sun that brief December day.")	
Jack Frost,	<i>Thomas Bailey Aldrich</i>
The Clear Vision	<i>John Greenleaf Whittier</i>
Nature's Easter Music,	<i>Lucy Larcom</i>
Spring Has Come,	<i>Oliver Wendell Holmes</i>
(One stanza beginning with "When wake the violets, Winter dies.")	

The Planting of the Apple Tree,	<i>William Cullen Bryant</i>
The Children's Hour,	<i>Henry Wadsworth Longfellow</i>
Hiawatha's Sailing,	<i>Henry Wadsworth Longfellow</i>

SECOND GRADE.

September,	<i>Helen Hunt Jackson</i>
How the Leaves Came Down,	<i>Susan Coolidge</i>
Thanksgiving Day,	<i>Lydia M. Child</i>
Spring,	<i>Celia Thaxter</i>
Child's World,	<i>William B. Rand</i>
Good Night and Good Morning	<i>Lord Houghton</i>
Hiawatha's Childhood	<i>Henry Wadsworth Longfellow</i>
We Thank Thee	<i>Ralph Waldo Emerson</i>

FIRST GRADE.

Come Little Leaves,	<i>George Cooper</i>
The Snow Fairies,	<i>George Cooper</i>
Washington's Birthday	<i>Margaret E. Sangster</i>
Little May,	<i>Mrs. Miller</i>
Song from Pippa Passes	<i>Robert Browning</i>
"What does little Birdie say?"	<i>Alfred Tennyson</i>

The following selections appropriate to the seasons, which have been learned in connection with nature study in the primary grades, have been set to music by the director of music and his assistant:—

THIRD GRADE.

New Year Song	<i>Laura E. Richards</i>
Our Daily Paths,	<i>Felicia Dorothea Hemans</i>
The Story of the Vane,	<i>Walter Learned</i>
An April Morning,	<i>F. Clifton Hayes</i>
A May Song,	<i>Anna M. Pratt</i>
A Sad Disappointment,	<i>Kate Kellogg</i>
Sweet Song of Songs,	<i>Gerald Massey</i>
Discontent,	<i>Sara Orne Jewett</i>

SECOND GRADE.

October's Party,	<i>S. C. Hanson</i>
Thanksgiving,	<i>Alice C. D. Riley</i>
Winter Song,	<i>Ludwig Holty</i>

In the Woods,	<i>Adelaide A. Proctor</i>
Spring Song,	<i>Elaine Goodale</i>
May,	<i>Nathaniel Parker Willis</i>
Robin's Return,	<i>Edith M. Thomas</i>
The Building of the Nest,	<i>Margaret E. Sangster</i>
The Enchantress,	<i>Thomas Bailey Aldrich</i>
The Fountain	<i>James Russell Lowell</i>

FIRST GRADE.

Snowflakes,	<i>F. D. Sherman</i>
New Year Song,	<i>Lucy Larcom</i>
The Snowflakes,	<i>Mrs. M. A. Harris</i>
Little Oh Dear,	<i>Eugene Field</i>
Dandelion Fashion,	<i>Clara Doty Blake</i>
The Violet,	<i>Jane Taylor</i>
The Seed,	<i>Florence R. Hill</i>
In April,	<i>Jesse McDermott</i>
Springtime,	<i>Sophie S. Bixby</i>
Little Gipsy Dandelion,	<i>Mary N. Prescott</i>

IN SCHOOL COMMITTEE, February 19, 1903.

Ordered, That the report of the superintendent as read and outlined be accepted and adopted as the annual report of the school committee for 1902, and that the secretary be authorized to append the names of members of the committee thereto.

SANFORD B. HUBBARD,
Secretary.

Members of the School Committee for 1902

JOHN H. H. McNAMEE, *Chairman ex-officio.*

WILLIAM TAGGARD PIPER.	PHILIP M. FITZSIMONS.
CHARLES H. THURSTON.	ROBERT WALKER.
WILLIAM H. HANUS.	CHARLES F. WYMAN.
ROSELINE L. EDGERLY.	MARY E. MITCHELL.
ORGE W. BICKNELL.	SHERMAN R. LANCASTER.
HENRY RUSSELL.	CAROLYN P. CHASE.
WARD B. MALLEY.	ARTHUR P. STONE.
WILLIAM J. MANDELL.	

passed, Oct. 16, 1902.

SELECTIONS FROM THE RECORDS OF THE MEETINGS OF
THE SCHOOL COMMITTEE.

JANUARY 10, 1902.

Organization of the Board. Persons elected for three years : — Ward One, Charles H. Thurston ; Ward Two, George W. Bicknell ; Ward Three, Robert Walker ; Ward Four, Sherman R. Lancaster ; Ward Five, Arthur P. Stone. Persons elected for one year : — Ward One, Paul H. Hanus ; Ward Two, J. Henry Russell ; Ward Five, William J. Mandell. William Taggard Piper was elected president of the Board ; Sanford B. Hubbard, secretary ; and Frank T. Evans, Page.

Latin Gymnasium, Petition to Equip It. A petition of members and graduates of the Latin and English high schools to the city council, containing five hundred sixty-four names, asking that the gymnasium in the Latin school be equipped with apparatus for the use of the pupils of these schools was received and referred to the committee on high schools.

Appropriations. Transportation of Pupils — Evening Schools — Accommodations for Allston School. Communications from the city clerk were received announcing the appropriation of \$300 for the transportation of pupils from Concord avenue and vicinity to the Russell school, an appropriation of \$500 for furnishings for the Roberts schoolhouse for evening classes, and an appropriation of \$1,000 to provide furniture and fit accommodations for the pupils of the Allston school.

Assistant Teacher of Music. The recommendation of the committee on special studies, that an assistant teacher of music be appointed, which was laid on the table February 21, 1901, was taken from the table and adopted.

FEBRUARY 20, 1902.

Removal of Snow. Communication from His Honor the Mayor. The following was received and placed on file : —

OFFICE OF THE MAYOR,
CAMBRIDGE, January 29, 1902.

MR. SANFORD B. HUBBARD,
Secretary School Committee.

DEAR SIR,— Replying to your communication of January 24th inst., containing a copy of a vote of the school committee in relation to the re-

removal of snow from the sidewalks in the vicinity of schoolhouses, I do not think it is expedient to change the existing conditions at this time.

Respectfully,

(Signed)

JOHN H. H. McNAMEE,
Mayor.

Gymnasium. Report of High School Committee. The following recommendation was adopted:—The committee on high schools, to which a petition from members and graduates of the high schools to the city council requesting that the gymnasium at the Latin school be equipped with suitable apparatus, which petition was referred by the city council to the school committee, and by the school committee was referred to this committee, reports, recommending that the city council be requested to appropriate the sum of \$700 for the purpose of equipping this gymnasium.

Adjustable Furniture. The following was adopted:—The committee on schoolhouses recommends that the city council be requested to appropriate \$3,500 for the purchase of adjustable furniture to replace that which, for any reason, is unsuitable for use in the several schools.

Committee of Conference on Schoolhouse Accommodations. The following recommendation was adopted:—The committee on schoolhouses recommends that the city council be requested to appoint a committee to consider, with the committee on schoolhouses of the school committee, the rebuilding of the Allston schoolhouse, the building of a new schoolhouse in Ward Four, and to arrange for the accommodation of the children who are to enter the primary schools March 1, in districts where the schoolhouses are crowded.

Assistant Teacher of Music — Order Reconsidered. The vote of January 20, adopting the recommendation of the committee on special studies, that an assistant teacher of music be appointed, was reconsidered and the recommendation was laid on the table.

MARCH 20, 1902.

Assistant Teacher of Music to be Appointed. On the reconsideration moved at the meeting in February of the recommendation of the committee on special studies, that an assistant to the director of music be appointed at a salary not exceeding \$800, the recommendation of the committee was adopted.

Willow Street Schoolhouse. The following was adopted:—The committee on schoolhouses recommends that the following communication be sent to the city council:—In view of the crowded condition of all the schools in Ward Two, and of the distance which many of the pupils of

the Allston school are compelled to walk to the building now occupied by them, the school committee urgently requests that the building of the proposed schoolhouse on Willow street be hastened as much as possible, and that arrangements be made at once to locate and build a modern schoolhouse to accommodate the pupils who belong in the Allston school.

Crowded Condition at the Wellington Schoolhouse. The following was adopted:—The committee on schoolhouses recommends that the following communication be sent to the city council:—Resolved, that in the opinion of the school committee, the crowded conditions at the Wellington schoolhouse are neither sanitary, healthful, nor economical. The city council is therefore requested to furnish accommodations for the pupils of this school who are now working in the basement, corridors, offices, small rooms, halls, and voting booth, where there is neither proper light nor ventilation. If such accommodations are not provided for the pupils now in the room in the basement, on or before the commencement of the next school term, April 7th, this committee will deem it their duty to close said basement room.

Appropriation for Transferring Pupils. The following communication was received and placed on file:—

In Common Council, April 8, 1902.

Ordered, that the sum of two hundred dollars (\$200.00) is hereby appropriated for the purpose of transferring pupils of the Wellington school to and from said school to other schools. Said sum to be transferred from the appropriation for contingent fund.

(Signed) EDWARD J. BRANDON,
City Clerk.

Appropriation for Graduation Exercises. Voted, that a sum not exceeding \$125 may be expended for the graduation exercises of the high schools, to be charged to the appropriation for incidental expenses.

MAY 15, 1902.

Resignation of Page of the School Board. The resignation of Frank T. Evans as page of the school board was accepted, and William E. McAnaul was elected in his place and his salary was fixed at the rate of \$25 per year.

Harvard University. Tuition of Students at the Rindge Manual Training School. Ordered, that the question of the amount of tuition to be paid by Harvard University for the instruction of students at the Rindge manual training school be referred to the committee on high schools and the committee on finance acting jointly with full power.

Eleven Wards.—Change of Rules. Ordered, that the committee on rules be requested to consider and report as to what changes should be made in the rules of the school committee in consequence of the new division of the city into eleven wards.

JUNE 19, 1902.

Tuition of Pupils of the Lawrence Scientific School. The following was adopted:—The joint committee on high schools and finance, to which the question of tuition of students of the Lawrence Scientific School who take courses in the Rindge manual training school, was referred at the meeting of May 15, reports, recommending that the tuition of these students be fixed at \$32 per course for each student.

Salaries of Teachers in Evening Schools. The following was adopted:—The committee on evening schools reports, recommending that in the future the salaries of teachers in the evening schools be fixed as follows, per evening:—Principal of the mechanical drawing school, \$4.00; teachers in the drawing schools, \$3.00. Principal of the evening high school, \$4.00; teachers in the evening high school, \$2.00. Principals of the elementary schools, \$3.00; teachers in the elementary schools, \$1.50.

Eleven Wards.—Change of Rules. The following was adopted:—In accordance with the request of the Board at the meeting of May 15, the committee on rules recommends that the rules be amended as follows:—By striking out the words "one from each ward" in the seventh line of Section 2, and by striking out the whole of the paragraph relating to "ward committees" in the same section.

That the following be substituted for Section 29:—Members of the Board shall be appointed, who shall have charge of the schools which are not under the direction of a standing committee, and they shall have oversight of their respective schools and may make temporary arrangements in cases not provided for in the rules.

Also that Section 30 be amended by striking out the words "except the ward committees."

Prevalence of Smallpox. His Honor Mayor McNamee was present and addressed the Board in regard to the alarming prevalence of smallpox. It was voted, that the present term close with the morning session of Friday, June 20, in view of the spread of this disease.

Text-Book in English Grammar. Voted, that the superintendent be requested to consider the advisability of substituting a different text-book in English grammar for the one now in use.

Pension for Teachers. Voted that a committee be appointed to inquire into the advisability of providing some method by which teachers, having reached a certain age and having been connected with the Cam-

bridge schools for a certain number of years, shall be retired with pension.

SEPTEMBER 18, 1902.

Communication Relating to the Election of School Committee. The following communication was received and placed on file: —

IN BOARD OF ALDERMEN, June 10, 1902.

Resolved, that Section 1 of Chapter 357 of the Legislative Acts of this Commonwealth, of the year 1902, entitled "An act relative to the election of the school committee and the removal of certain officials in the city of Cambridge" approved April 29, 1902, is hereby accepted by the city council of the city of Cambridge.

(Signed) EDWARD J. BRANDON,
City Clerk.

Salary of a Teacher Absent at the Beginning of the School Year. The following was adopted:—The committee on finance recommends that Section 69 of the rules be amended by adding the following:—When a teacher is absent at the beginning of the school year, no part of the salary shall be paid until the absentee has returned to school, unless upon the written recommendation of the committee on finance, the Board, by a two-thirds vote, shall so order.

New Schoolhouse on Elm Street. The following was adopted:—The committee on schoolhouses recommends that, in view of the urgent need of school accommodations in Wards Three, Four and Five, the city council be requested to provide at once for building a schoolhouse, containing sixteen rooms and a hall, on the land on Elm street recently purchased for the site of a schoolhouse.

OCTOBER 16, 1902.

Gift from Dr. Morrill Wyman. The following offered by the superintendent was referred to the committee on text-books:—Through His Honor the Mayor, Dr. Morrill Wyman offers to present to each pupil of the Rindge manual training school a copy of "Animal Mechanics," by Sir Charles Bell and Dr. Jeffries Wyman, if the gift meets the approval of the school committee.

At the meeting of the Board in December the gift was gratefully received.

Gift from Mr. William A. Munroe. The following was placed on file:—The committee on high schools reports that William A. Munroe has presented to the Latin school the busts and maps named below:—Busts: (1)

Jupiter of Otricoli, original in the Vatican. (2) Juno Ludovisi, original in the Villa Ludovisi, Rome. (3) Augustus Cæsar, from statue in the Vatican. (4) Virgil. (5) Venus of Melos, from statue in the Louvre. Three of Keipert's maps: (1) Italia Antiqua. (2) Latii Veteris et Finitimarum Regionum. (3) Imperii Romani.

Ordered, that the school committee accept the gift of William A. Munroe, Esq., to the Latin school, and tender to him the thanks of this Board and its appreciation of the valuable aid to the study of the ancient classics his present as well as his former generosity affords.

Physical Training in the High Schools. The following was laid on the table until the next meeting:—The committee on high schools reports, recommending that physical training be introduced as a subject in the course of study to be taught in the Latin and English high schools. Instruction in this subject shall be begun at once for the girls, and for boys as soon as practicable.

At the meeting in November consideration of this report was postponed for one month, and no further action was taken during the year.

Schools Not Closed for the Teachers' Association. The following was refused adoption:—Ordered, that the sessions of the schools be suspended during Friday, October 31, 1902, to enable the teachers to attend the sessions of the Middlesex County Teachers' Association.

Resignation of a Member of the School Committee. The resignation of Mrs. Caroline L. Edgerly, a member of the school committee from Ward Two, to take effect at once, was accepted; and the secretary was directed to inform the board of aldermen of the vacancy in this Board caused by this resignation.

NOVEMBER 20, 1902.

Requirements for Position of Teacher in a Kindergarten. The following recommendation was adopted:—Ordered, that the requirements for the position of teacher in a kindergarten as given in Section 65 of the rules of the school committee be changed to read as follows:—A person to be eligible to the position of teacher in a kindergarten must have had a course in a high school, a course in a kindergarten normal school, a year's experience in teaching, either in a kindergarten or a primary school, and must be able to play the piano.

Head Janitor. The following was laid on the table until the next meeting:—The committee on schoolhouses recommends that His Honor the Mayor be requested to appoint a suitable person as head janitor, who shall have charge and supervise the work of janitors of schoolhouses.

Dunster Schoolhouse. The proposition in regard to vacating the Dunster schoolhouse was referred to the committee on schoolhouses with

the request that it be reported upon at the next meeting of the Board. At the meeting in December the proposition was referred to the committee of 1903.

DECEMBER 12, 1902.

Communication from the Total Abstinence Society. A communication from the secretary of the Massachusetts Total Abstinence Society requesting permission for their representatives to address pupils in their schoolrooms, was referred to the committee on rules.

Plans for a New Schoolhouse. The following was received and placed on file:—

BOARD OF ALDERMEN, Oct. 28, 1902.

Ordered, that the sum of five hundred dollars (\$500.00) be and is hereby appropriated for the purpose of obtaining plans of a new schoolhouse to be erected on the city land on Elm street, said building to cost a sum not exceeding \$80,000.00, including heating, ventilation, and grading, and exclusive of furnishings. The superintendent of public buildings is hereby authorized to procure such plans by competition between architects. The award to be made by a commission to consist of the Mayor, superintendent of public buildings, and the superintendent of schools. The foregoing expense to be charged to the proper appropriation.

(Signed) EDWARD J. BRANDON,
City Clerk.

Head Janitor. The report of the committee on schoolhouses that His Honor the Mayor be requested to appoint a suitable person as head janitor was adopted.

Education of the Blind. The petition of G. G. O'Dwyer asking the privilege to lecture on education of the blind, before the high schools, was referred to the superintendent with power.

Afternoon Kindergartens. Voted, that the committee on kindergartens have authority to open one or more kindergarten rooms for afternoon sessions.

Superintendent to Prepare Annual Report. Ordered, that the superintendent of schools be requested to prepare and present to the Board for its consideration the annual school report; and that he be authorized to select and print in that report such portions of the reports now read as may in his judgment be of public interest. Also to make selections from any further reports of committees that may be made later.

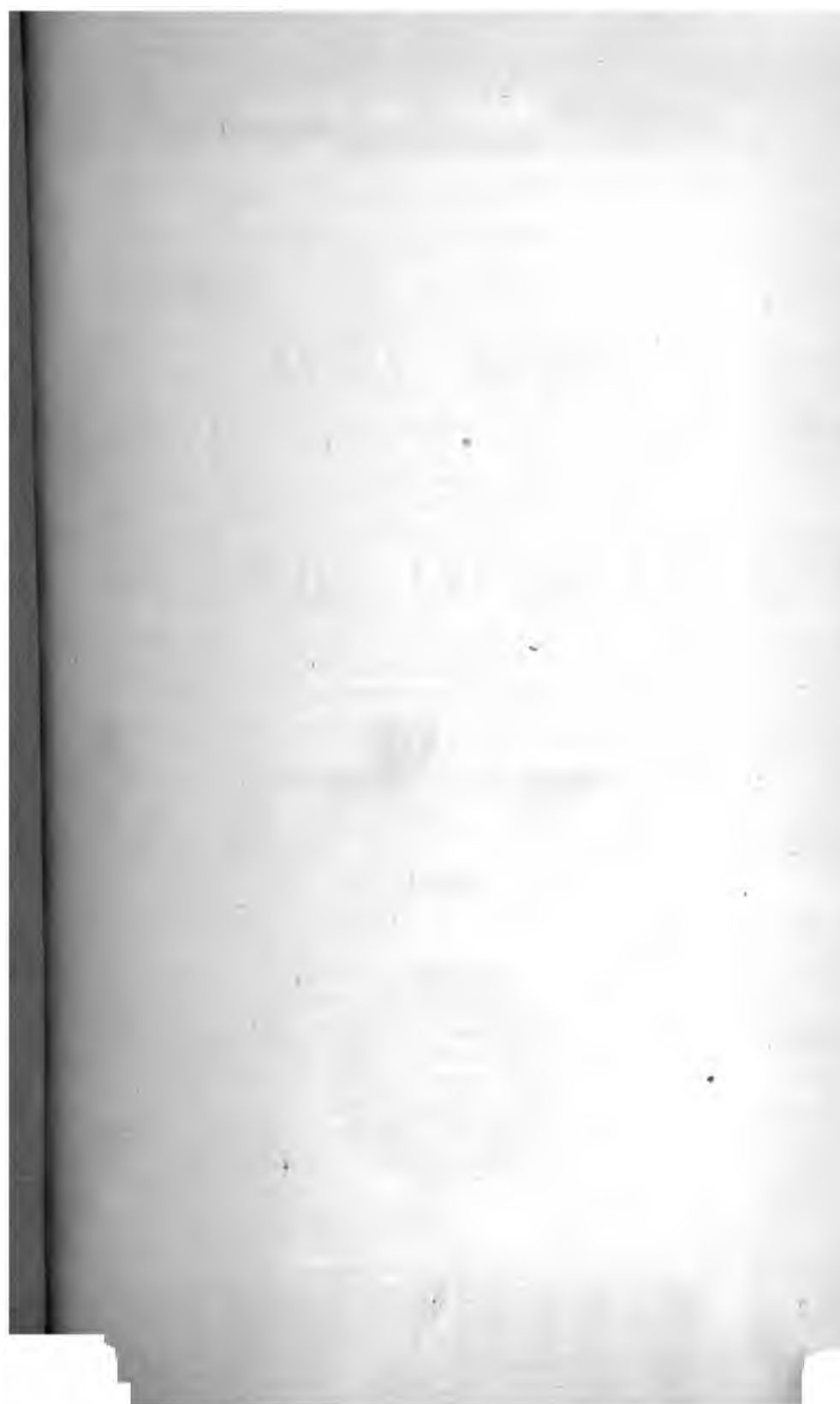
Vote of Thanks to the Mayor and to the President of the Board. The following was adopted by a unanimous rising vote:—Voted, that the thanks of this Board be hereby tendered to His Honor Mayor McNamee, and to the president of the Board, Mr. William Taggard Piper, for the marked ability and courtesy manifested by them during the past year in the performance of the duties of their respective offices in connection with this Board.

Annual Report
OF THE
SCHOOL COMMITTEE



City of Cambridge

MASSACHUSETTS



City of Cambridge
Massachusetts

ANNUAL REPORT

OF THE



SCHOOL COMMITTEE

PREPARED BY THE

SUPERINTENDENT OF SCHOOLS

1903



PRINTED FOR THE DEPARTMENT



City of Cambridge
Massachusetts

ANNUAL REPORT

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330277



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SCHOOL YEAR 1964-1965		
Grade	Number of Students	Percentage
1	12	100.0
2	12	100.0
3	12	100.0
4	12	100.0
5	12	100.0
6	12	100.0
7	12	100.0
8	12	100.0
9	12	100.0
10	12	100.0
11	12	100.0
12	12	100.0

SCHOOL YEAR 1965-1966		
Grade	Number of Students	Percentage
1	12	100.0
2	12	100.0
3	12	100.0
4	12	100.0
5	12	100.0
6	12	100.0
7	12	100.0
8	12	100.0
9	12	100.0
10	12	100.0
11	12	100.0
12	12	100.0

SCHOOL YEAR 1966-1967		
Grade	Number of Students	Percentage
1	12	100.0
2	12	100.0
3	12	100.0
4	12	100.0
5	12	100.0
6	12	100.0
7	12	100.0
8	12	100.0
9	12	100.0
10	12	100.0
11	12	100.0
12	12	100.0

SCHOOL YEAR 1967-1968		
Grade	Number of Students	Percentage
1	12	100.0
2	12	100.0
3	12	100.0
4	12	100.0
5	12	100.0
6	12	100.0
7	12	100.0
8	12	100.0
9	12	100.0
10	12	100.0
11	12	100.0
12	12	100.0

APPENDIX B - ATTENDANCE

Grade	Average Daily Attendance	Percent Attendance
1	5.776	93.9
2	5.691	93.6
3	5.879	93.8
4	6.316	94.1
5	6.206	93.8

ATTENDANCE AT THE PRIMARY SCHOOLS.

Year	Number of Pupils Registered	Average Number Belonging	Average Daily Attendance	Per cent of Attendance
1899	6,750	5,514	5,071	91.9
1900	6,888	5,788	5,267	91.0
1901	6,815	5,840	5,310	90.9
1902	6,687	5,708	5,249	92.0
1903	6,711	5,755	5,227	90.8

ATTENDANCE AT THE KINDERGARTENS.

Year	Number of Pupils Registered	Average Number Belonging	Average Daily Attendance	Per cent of Attendance
1899	803	575	459	79.9
1900	909	623	467	74.9
1901	886	645	509	78.9
1902	976	620	516	83.2
1903	1,020	688	545	79.2

NUMBER OF PUPILS ADMITTED TO THE LOWEST GRADE OF THE LATIN SCHOOL.
Course, 5 years.

Year	Boys	Average Age	Girls	Average Age
1899	58	14 years 5 months	51	14 years 4 months
1900	84	14 years 5 months	70	14 years 5 months
1901	57	14 years 6 months	58	14 years 2 months
1902	60	14 years 5 months	88	14 years 4 months
1903	65	14 years 4 months	80	14 years 5 months

NUMBER OF PUPILS GRADUATED FROM THE LATIN SCHOOL.
Course, 5 years.

Year	Boys	Average Age	Girls	Average Age
1899	16	18 years 3 months	27	18 years 5 months
1900	20	18 years 11 months	19	18 years 11 months
1901	22	18 years 7 months	34	19 years 0 months
1902	23	19 years 1 month	39	18 years 9 months
1903	18	18 years 4 months	31	18 years 10 months

REPORT OF SCHOOL COMMITTEE.

ATTENDANCE AT ALL THE DAY SCHOOLS.

Year	Number of Pupils Registered	Average Number Belonging	Average Daily Attendance	Per cent of Attendance
1899	15,753	13,255	12,285	92.6
1900	16,203	13,816	12,684	91.8
1901	16,065	14,144	13,021	92.1
1902	16,341	14,244	13,215	92.8
1903	16,394	14,397	13,250	92.0

ATTENDANCE AT THE LATIN SCHOOL.

Year	Number of Pupils Registered	Average Number Belonging	Average Daily Attendance	Per cent of Attendance
1899	398	371	351	94.8
1900	430	404	385	95.2
1901	490	468	449	96.1
1902	488	465	441	95.1
1903	501	474	451	94.9

ATTENDANCE AT THE ENGLISH HIGH SCHOOL.

Year	Number of Pupils Registered	Average Number Belonging	Average Daily Attendance	Per cent of Attendance
1899	794	688	666	96.7
1900	572	514	491	95.6
1901	613	517	490	94.8
1902	577	498	464	93.1
1903	583	493	470	95.3

ATTENDANCE AT THE MANUAL TRAINING SCHOOL.

Year	Number of Pupils Registered	Average Number Belonging	Average Daily Attendance	Per cent of Attendance
1900	212	192	183	95.5
1901	217	191	184	96.2
1902	254	242	229	94.4
1903	300	262	251	95.9

ATTENDANCE AT THE GRAMMAR SCHOOLS.

Year	Number of Pupils Registered	Average Number Belonging	Average Daily Attendance	Per cent of Attendance
1899	7,008	6,107	5,738	93.9
1900	7,192	6,295	5,891	93.6
1901	7,044	6,483	6,079	93.8
1902	7,359	6,711	6,316	94.1
1903	7,279	6,725	6,306	93.8

REPORT OF SCHOOL COMMITTEE.

9

ATTENDANCE AT THE PRIMARY SCHOOLS.

Year	Number of Pupils Registered	Average Number Belonging	Average Daily Attendance	Per cent of Attendance
1899	6,750	5,514	5,071	91.9
1900	6,888	5,788	5,267	91.0
1901	6,815	5,840	5,310	90.9
1902	6,687	5,708	5,249	92.0
1903	6,711	5,755	5,227	90.8

ATTENDANCE AT THE KINDERGARTENS.

Year	Number of Pupils Registered	Average Number Belonging	Average Daily Attendance	Per cent of Attendance
1899	803	575	459	79.9
1900	909	623	467	74.9
1901	886	645	509	78.9
1902	976	620	516	83.2
1903	1,020	688	545	79.2

NUMBER OF PUPILS ADMITTED TO THE LOWEST GRADE OF THE LATIN SCHOOL. Course, 5 years.

Year	Boys	Average Age	Girls	Average Age
1899	58	14 years 5 months	51	14 years 4 months
1900	84	14 years 5 months	70	14 years 5 months
1901	57	14 years 6 months	58	14 years 2 months
1902	60	14 years 5 months	88	14 years 4 months
1903	65	14 years 4 months	80	14 years 5 months

NUMBER OF PUPILS GRADUATED FROM THE LATIN SCHOOL. Course, 5 years.

Year	Boys	Average Age	Girls	Average Age
1899	16	18 years 3 months	27	18 years 5 months
1900	20	18 years 11 months	19	18 years 11 months
1901	22	18 years 7 months	34	19 years 0 months
1902	23	19 years 1 month	39	18 years 9 months
1903	18	18 years 4 months	31	18 years 10 months

REPORT OF SCHOOL COMMITTEE.

NUMBER OF PUPILS ADMITTED TO THE LOWEST GRADE OF THE ENGLISH HIGH SCHOOL.

Year	Boys	Average Age	Girls	Average Age
1899	61	15 years 0 months	152	15 years 0 months
1900	56	15 years 5 months	170	15 years 1 month
1901	46	14 years 11 months	145	15 years 0 months
1902	41	14 years 8 months	155	15 years 1 month
1903	58	14 years 8 months	192	15 years 0 months

NUMBER OF PUPILS GRADUATED FROM THE ENGLISH HIGH SCHOOL.

Year	Boys	Average Age	Girls	Average Age
1899	14	18 years 4 months	45	18 years 6 months
1900	23	18 years 2 months	45	18 years 8 months
1901	13	18 years 3 months	47	18 years 9 months
1902	25	18 years 7 months	61	18 years 9 months
1903	15	18 years 8 months	58	18 years 7 months

NUMBER OF PUPILS ADMITTED TO THE LOWEST GRADE OF THE MANUAL TRAINING SCHOOL, WITH THE NUMBER OF GRADUATES.

Year	Admitted	Average Age	Graduated	Average Age
1899	92	15 years 3 months	13	18 years 6 months
1900	74	15 years 0 months	16	19 years 0 months
1901	110	15 years 2 months	21	18 years 3 months
1902	127	15 years 2 months	23	19 years 2 months
1903	144	15 years 2 months	38	18 years 7 months

NUMBER OF PUPILS GRADUATED FROM THE GRAMMAR AND PRIMARY SCHOOLS.

Year	Grammar Schools. Course, 6 yrs.	Average Age	Primary Schools. Course, 3 yrs.	Average Age
1899	553	15 years 0 months	1,393	9 years 8 months
1900	582	14 years 11 months	1,423	9 years 7 months
1901	565	14 years 11 months	1,467	9 years 7 months
1902	643	14 years 11 months	1,460	9 years 6 months
1903	648	14 years 9 months	1,428	9 years 5 months

LENGTH OF TIME IN COMPLETING THE COURSE OF STUDY IN THE
GRAMMAR SCHOOLS.

Year	In 4 years	In 5 years	In 6 years	In 7 years or more
1899	6 per cent	31 per cent	47 per cent	16 per cent
1900	6 per cent	28 per cent	50 per cent	16 per cent
1901	6 per cent	28 per cent	50 per cent	16 per cent
1902	7 per cent	27 per cent	51 per cent	15 per cent
1903	6 per cent	26 per cent	53 per cent	15 per cent

LENGTH OF TIME IN COMPLETING THE COURSE OF STUDY IN THE
PRIMARY SCHOOLS.

Year	In 2 years	In 2½ years	In 3 years	In 3½ years	In 4 years	In 4½ years or more
1899	3 per cent	4 per cent	58 per cent	7 per cent	20 per cent	8 per cent
1900	2 per cent	2 per cent	59 per cent	6 per cent	22 per cent	9 per cent
1901	3 per cent	1 per cent	61 per cent	5 per cent	20 per cent	10 per cent
1902	3 per cent	2 per cent	62 per cent	4 per cent	20 per cent	9 per cent
1903	3 per cent	2 per cent	60 per cent	5 per cent	22 per cent	8 per cent

NUMBER OF PUPILS IN THE LATIN SCHOOL, DECEMBER, 1903.

Grade	Boys	Girls	Total	Per cent
Fourteenth.....	23	31	54	.107
Thirteenth.....	48	37	85	.168
Twelfth.....	45	43	88	.174
Eleventh.....	48	88	136	.268
Tenth.....	64	79	143	.283
Total.....	228	278	506	

NUMBER OF PUPILS IN THE ENGLISH HIGH SCHOOL, DECEMBER, 1903.

Grade	Boys	Girls	Total	Per cent
Thirteenth.....	18	78	96	.166
Twelfth.....	19	74	93	.161
Eleventh.....	33	90	123	.212
Tenth.....	48	201	249	.430
Specials.....	4	14	18	.031
Total.....	122	457	579	

REPORT OF SCHOOL COMMITTEE.

NUMBER OF PUPILS IN THE MANUAL TRAINING SCHOOL, DECEMBER, 1903.

Grade	Boys		Per cent
Thirteenth.....	48	This school is for boys only. It became a part of the public school system, January 1, 1899.	.134
Twelfth.....	52		.162
Eleventh.....	98		.305
Tenth.....	128		.399
Total.....	321		

NUMBER OF PUPILS IN THE GRAMMAR SCHOOLS, DECEMBER, 1903.

Grade	Boys	Girls	Total	Per cent
Ninth.....	282	359	641	.092
D.....	60	62	122	.018
Eighth.....	351	445	796	.115
C.....	85	93	178	.026
Seventh.....	447	555	1,002	.145
Sixth.....	568	561	1,129	.160
B.....	112	138	250	.036
Fifth.....	620	610	1,230	.180
A.....	156	177	333	.048
Fourth.....	644	603	1,247	.180
Total.....	3,325	3,603	6,928	

NUMBER OF PUPILS IN THE PRIMARY SCHOOLS, DECEMBER, 1903.

Grade	Boys	Girls	Total	Per cent
Third.....	859	849	1,708	.293
Second.....	987	823	1,810	.310
First.....	1,272	1,047	2,319	.397
Total.....	3,118	2,719	5,837	

NUMBER OF PUPILS AND TEACHERS IN THE KINDERGARTENS.

Year	Boys	Girls	Total	Number of Teachers
1901	355	351	706	25
1902	358	364	722	25
1903	383	381	764	29

NUMBER OF PUPILS BELONGING TO THE EVENING DRAWING SCHOOLS, WITH THE
AVERAGE ATTENDANCE.

1898	1899	1900	1901	1902	1903
182 99	194 99	184 99	193 97	220 114	187 98

NUMBER OF PUPILS BELONGING TO THE EVENING SCHOOLS, WITH THE AVERAGE
ATTENDANCE.

1898	1899	1900	1901	1902	1903
1,165 494	1,158 452	1,248 420	1,286 464	1,367 510	1,664 625

NUMBER OF PUPILS IN THE PRIVATE SCHOOLS IN CAMBRIDGE, INCLUDING THOSE
IN THE PAROCHIAL SCHOOLS.

1898	1899	1900	1901	1902	1903
2,637	2,713	3,004	3,439	3,451	3,711

NUMBER OF AGE AND SCHOOLING CERTIFICATES ISSUED.

1898	1899	1900	1901	1902	1903
291	324	380	387	507 *354	565 *655

* Issued to minors over sixteen years of age, in accordance with the law of 1902.

REPORT OF SCHOOL COMMITTEE.

COST OF INSTRUCTION FROM 1840 TO 1874.

[In obtaining the cost per pupil for these years the number of pupils belonging to the schools in December has been used, as the average number cannot be obtained.]

Year	Number of Teachers	Number of Pupils	Whole Cost	Cost per Pupil
1840	20	1,388	\$6,747 00	\$4 86
1841	22	1,635	7,309 67	4 47
1842	23	1,871	8,374 32	4 47
1843	28	1,918	9,008 00	4 69
1844	31	2,000	9,609 75	4 80
1845	37	2,151	11,558 87	5 37
1846	38	2,227	12,940 00	5 81
1847	39	2,228	14,025 00	6 29
1848	43	2,408	16,996 42	7 05
1849	46	2,561	18,900 00	7 37
1850	49	2,597	20,025 00	7 71
1851	54	2,738	21,925 00	8 00
1852	58	2,929	23,125 00	7 89
1853	61	2,966	24,225 00	8 16
1854	62	3,047	27,216 55	8 93
1855	64	3,196	28,325 50	8 86
1856	70	3,289	29,425 00	8 94
1857	72	3,366	32,885 00	9 76
1858	78	3,744	34,075 00	9 10
1859	84	4,145	36,300 00	8 75
1860	88	4,417	37,550 00	8 50
1861	92	4,589	39,300 00	8 56
1862	93	4,851	39,650 00	8 17
1863	99	5,077	42,425 00	8 37
1864	105	5,277	56,675 00	10 74
1865	108	5,335	71,350 00	13 37
1866	115	5,578	75,975 00	13 62
1867	125	5,864	82,900 00	14 13
1868	134	6,167	91,400 00	14 82
1869	137	6,187	95,650 00	15 45
1870	145	6,483	105,250 00	16 23
1871	156	6,840	125,650 00	18 36
1872	165	7,133	137,900 00	19 33
1873	172	7,379	143,000 00	19 46
1874	184	7,816	157,550 00	21 35

COST OF INSTRUCTION IN THE DAY SCHOOLS.

[Includes the cost of teachers, superintendent, supervisor, agent, clerks, and truant officers.]

Number of Teachers in December	Average Number of Pupils	Whole Cost	Cost per Pupil
176	7,066	\$164,818 00	\$23 32
173	7,028	136,491 20	19 42
182	7,175	130,371 75	18 17
200	7,898	137,328 55	17 38
216	8,414	152,290 62	18 09
233	9,218	165,277 42	17 92
241	9,756	175,773 80	18 02
263	10,089	190,558 21	18 89
284	10,861	207,144 22	19 07
312	11,166	228,873 48	20 50
337	11,957	245,104 01	20 50
364	12,907	268,182 97	20 78
409	13,816	326,512 34	23 63
417	14,244	343,787 00	24 14
428	14,397	349,179 80	24 25

COST OF THE DAY SCHOOLS.

[Includes the cost of instruction, of text-books and supplies, of incidental expenses, of repairs, of the care and *repair of schoolhouses, and of the transportation of pupils.]

Number of Teachers in December	Average Number of Pupils	Whole Cost	Cost per Pupil
176	7,066	\$200,894 09	\$28 43
173	7,028	162,437 77	23 11
182	7,175	153,967 56	21 45
200	7,898	166,230 52	21 04
216	8,414	203,234 56	24 15
233	9,218	207,536 46	22 51
241	9,756	225,408 57	23 10
263	10,089	241,980 84	23 98
284	10,861	266,651 02	24 55
312	11,166	287,137 37	25 72
337	11,957	316,090 83	26 44
364	12,907	345,566 30	26 77
409	13,816	417,554 00	30 22
417	14,244	427,356 71	30 00
428	14,397	429,554 39	29 84

COST OF INSTRUCTION IN THE EVENING SCHOOLS.

Elementary	High	Drawing	Total
\$3,375 00	\$1,874 00	\$1,430 00	\$6,679 00
2,777 50	1,551 75	1,205 00	5,534 25
3,218 50	1,682 75	1,298 00	6,199 25
5,000 50	1,683 00	1,428 00	8,111 50

[In accordance with the statutory definition of the support of public schools, the repair of schoolhouses is not included in the cost of the schools this year and will not be in the future.]

FINANCES.

(For the financial year ending December 1, 1903.)

Cost of instruction in day schools	\$349,179 80
Cost of instruction in evening schools	8,111 50
Cost of care of buildings, day schools	61,074 34
Cost of care of buildings, evening schools	1,701 73
Cost of text-books and supplies, day schools	15,501 82
Cost of text-books and supplies, evening schools	383 04
Expended for care of truants	1,786 23
Expended for flags	99 28
Expended for incidentals	1,603 98
Expended for transportation of pupils	309 00
Expended on Washington schoolhouse	19,137 41
Expended on Kelley schoolhouse	59,980 67
Expended on Fletcher schoolhouse	31,025 35
Expended for furniture	3,817 81
Expended for permanent improvements, \$6,654.36, and ordinary repairs, \$9,171 91	15,826 47
	<hr/>
	\$569,538 37

Deducting from the above the amount received from the Hopkins Fund, \$669 10, the tuition of State Wards, \$1,025.50, the tuition of non-resident pupils, \$6,809.25, the amount received from sales of and damages to books, \$517 44, and the amount received from sales of schoolhouses and materials, \$20,182.50	29,203 79
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The actual cost of the schools to the city is	\$540,334 58
Assessed value of real and personal estates, May, 1903	\$104,771,910 00
Ratio of expenditure for school purposes to the valuation of 1903 . . . . .	.0053

SUMMARY OF THE SCHOOL CENSUS FOR SEPTEMBER, 1903.

Number of children in the city between five and fifteen, boys, 7,725; girls, 7,787	15,512
Number in public schools between five and fifteen	12,069
Number in private schools between five and fifteen	2,899
Number not attending school between five and seven	227
Number not attending school between seven and fourteen	96
Number not attending school between fourteen and fifteen	221
Whole number not attending school between five and fifteen	544
Number in the city between five and six	1,725
Number in the city between seven and fourteen, boys, 5,259; girls, 5,391	10,650

TABULAR VIEW.

DECEMBER 31, 1903

Prepared by the Secretary of the School Committee.

Names of Schools	Teachers	Salaries	No. of Pupils Dec. 31, 1903
Latin.....	William F. Bradbury.....	\$3,000	506
	Theodore P. Adams.....	2,000	
	John I. Phinney.....	2,000	
	Max Benshimol.....	1,700	
	Helen M. Albee.....	950	
	Constance Alexander.....	950	
	Mary A. Bachelder.....	950	
	Alice C. Baldwin.....	950	
	Almira W. Bates.....	700	
	Margaret S. Bradbury.....	700	
	Isabel S. Burton.....	950	
	Alice D. Chamberlain.....	750	
	Grace C. Davenport.....	600	
	Etta L. Davis.....	800	
	Caroline Drew.....	950	
	Mary C. Hardy.....	950	
	Rose Hardwick.....	950	
	Mabel E. Harris.....	950	
	Helen W. Munroe.....	950	
	Louisa P. Parker.....	950	
	Lena G. Perrigo.....	950	
	Ethel V. Sampson.....	800	
	Jennie S. Spring.....	950	
	*Annie S. Dodge.....	600	
English High.....	Ray Greene Hulling.....	3,000	579
	Edwin L. Sargent.....	2,000	
	Francis L. Bain.....	900	
	Joseph A. Coolidge.....	1,600	
	Russell T. Greene, Jr.....	1,600	
	Grace L. Deering.....	1,200	
	Caroline Close.....	950	
	Bertha L. Cogswell.....	950	
	Gertrude H. Crook.....	950	
	Mary L. Cunningham.....	750	
	Esther S. Dodge.....	950	
	Agnes B. Goerwitz.....	850	
	Katherine H. James.....	750	
	Jeannie B. Kenrick.....	800	
	Maud A. Lawson.....	950	
	Henrietta E. McIntire.....	950	
	Mary Moulton.....	950	
	Lillian C. Rogers.....	950	
	Caroline A. Sawyer.....	950	
	Emma A. Scudder.....	950	
	Florence W. Smith.....	950	
	Martha R. Smith.....	950	
	Delia M. Stickney.....	1,200	
	Annie F. Stratton.....	800	
	*Martha L. Babbitt.....	600	

* Secretary and Librarian.

TABULAR VIEW — Continued.

Names of Schools	Teachers	Salaries	No. of Pupils Dec. 31, 1903
Rindge Manual Training...	Charles H. Morse.....	\$3,000	321
	Myra I. Ellis.....	1,300	
	Helen W. Metcalf.....	950	
	Mabel D. Watson.....	750	
	Richard H. Gallagher.....	1,100	
	Evan J. Griffiths.....	1,000	
	Lewis D. Hill.....	1,400	
	John M. Hussey.....	1,200	
	James E. MacWhinnie.....	1,100	
	Edward R. Markham.....	1,500	
	Joseph M. Norton.....	1,100	
	Harry E. Rich.....	800	
	Walter M. Smith.....	1,200	
	James G. Telfer.....	1,500	
	Albert L. Ware.....	1,200	
	John W. Wood, Jr.....	1,400	
	*Lillian W. Hyde.....	600	
Agassiz, { Grammar.....	Maria L. Baldwin.....	1,000	{ 146
Agassiz, { Primary.....	Edith C. Arey.....	700	{ 118
	Nellie B. Blodgett.....	550	
	Addie B. Byam.....	700	
	Frances W. Dawson.....	700	
	Lillian G. Goodwin.....	700	
	Mary A. Parsons.....	700	
	Grace C. Stedman.....	700	
Boardman, Primary.....	Elizabeth J. Karcher.....	790	360
	Mabel E. Blake.....	700	
	Harriette G. Gilmore.....	550	
	Malvina M. Joslin.....	700	
	Maud E. Kimball.....	700	
	Jennie B. Ross.....	450	
	Elizabeth A. Stevens.....	500	
	Lucy A. Witham.....	600	
Cushing, Primary.....	Maude A. Deehan.....	760	75
	Margaret E. Sheehan.....	550	
Dunster, Primary.....	Susan E. Wyeth.....	760	67
	Mary A. Doran.....	700	
Ellis, Grammar....	Edward O. Grover.....	2,000	515
	Nellie A. Hutchins.....	900	
	Caroline L. Blake.....	800	
	Adelaide G. Bunker.....	750	
	Emma A. Faulkner.....	700	
	Harriet Foster.....	700	
	Lottie L. Griswold.....	700	
	Louise H. Griswold.....	700	
	Ellen J. Hunt.....	700	
	Flora C. Ingraham.....	700	
	Ida J. Mahoney.....	450	
	Sarah W. Mendell.....	700	
	Mary A. Stephenson.....	700	
	Josephine C. Wyman.....	650	
Felton, Primary.....	C. Florence Smith.....	720	162
	Marcla R. Bowman.....	700	
	S. Emma Davis.....	700	
	Carrie H. Smith.....	700	

* Secretary and Librarian.

TABULAR VIEW — Continued.

Names of Schools	Teachers	Salaries	No. of Pupils Dec. 31, 1903
t, Primary.....	Mary A. Rady.....	\$775	193
	Annie M. Billings.....	700	
	Margaret F. Sanderson.....	600	
	Gertrude T. Sullivan.....	550	
Primary.....	Frances E. Pendexter.....	810	426
	Charlotte A. Callahan.....	600	
	Katherine L. Dolan.....	700	
	Mary L. Dolan.....	700	
	Minnie A. Doran.....	700	
	Kate A. Hegarty.....	700	
	Mary A. Hurley.....	700	
	Katherine L. McElroy.....	700	
	Julia G. McHugh.....	700	
	Mary E. Mulloney.....	700	
	Anastasia Peters.....	700	
	Nora E. Reardon.....	600	
d, Grammar.....	Thomas W. Davis.....	2,000	799
	Margaret B. Wellington.....	900	
	Harriette F. Sawin.....	800	
	Annie M. Street.....	750	
	Addie L. Bartlett.....	700	
	Winifred V. Cobb.....	700	
	Nellie A. Coburn.....	700	
	Frances Fabyan.....	700	
	Margaret M. Fearn.....	700	
	Estella J. French.....	700	
	Annie B. Lowell.....	700	
	Josephine MacDonald.....	650	
	Bernice E. Mayhew.....	550	
	Wattie M. Nash.....	650	
	Laura L. Parmenter.....	700	
	Louise C. Patterson.....	700	
	Annie L. Prince.....	600	
	Elizabeth L. Setchell.....	700	
	Grace P. Thomas.....	600	
	Hortense O. Young.....	700	
s, Primary.....	Lucy C. Wyeth.....	760	87
	Marianne Webb.....	700	
{ Grammar.....	Everett L. Getchell.....	2,000	{ 431
{ Primary.....	Ella S. Danforth.....	900	{ 244
	Josephine Day.....	700	
	Maude M. Dutton.....	650	
	Lucy M. Fletcher.....	700	
	Anna E. Groté.....	450	
	Jennie C. Hardy.....	650	
	Emma J. Houlihan.....	550	
	Maude A. Johnston.....	500	
	Ellen A. Kidder.....	700	
	Ella M. Leaver.....	700	
	Catherine A. McLean.....	700	
	Ethel I. Murch.....	650	
	Eva G. Oakes.....	700	
	Esther D. Paul.....	700	
	Carrie L. Power.....	650	
	Mary E. Regan.....	650	

TABULAR VIEW — Continued.

Names of Schools	Teachers	Salaries	No. of Pupils Dec. 31, 1903
Lassell, Primary.....	Frances E. Whoriskey.....	\$770	162
	Rose V. Collier.....	700	
	Elizabeth B. Gahm.....	700	
	Mary E. Whoriskey.....	700	
Lowell, Primary.....	Eusebia A. Minard.....	765	60
	Agnes J. McElroy.....	700	
Merrill, Primary.....	Louise W. Harris.....	745	257
	Julia M. Davis.....	600	
	Henriette E. de Rochemont....	700	
	Daisy E. Haynes.....	600	
	Marion B. Magwire.....	700	
	Nellie S. Walker.....	700	
Morse, { Grammar.....	Mary A. Townsend.....	2,000	{ 550
{ Primary.....	Mary E. Towle.....	900	{ 220
	Marcia E. Ridlon.....	750	
	Ida J. Holmes.....	700	
	Elizabeth J. Baldwin.....	700	
	Christina R. Denyven.....	700	
	Ida M. Holden.....	600	
	Florence E. Hunter.....	700	
	Grace H. Manter.....	700	
	Alice E. May.....	700	
	Helen Montague.....	600	
	Anna A. O'Connell.....	650	
	Ella M. Pinkham.....	700	
	Elizabeth H. Richards.....	700	
	Emille P. Richardson.....	700	
	Mary E. Sawyer.....	700	
	Lucy M. Soule.....	700	
	Mary E. Warren.....	700	
Otis, Primary.....	Ellen N. Leighton.....	785	288
	Frances Allen.....	700	
	Anna E. Callahan.....	700	
	Josephine M. Doherty.....	700	
	Luella M. Marsh.....	700	
	Anna N. Sullivan.....	550	
	Margaret Sullivan.....	700	
	Ellen C. Walsh.....	700	
Parker, Primary.....	Mary A. Knowles.....	780	284
	Charlotte E. Clapp.....	700	
	Mattie S. Cutting.....	700	
	Harriet R. Harrington.....	700	
	Agnes Marchant.....	700	
	Mary E. Mullins.....	450	
	Mary E. White.....	500	
Peabody, { Grammar.....	Frederick S. Cutter.....	2,000	{ 371
{ Primary.....	Charlotte A. Ewell.....	900	{ 137
	Mabel R. Coombs.....	750	
	Mary H. Ellis.....	750	
	Susan C. Allison.....	700	
	Anna F. Bellows.....	700	
	Gertrude D. Brooks.....	500	
	Katherine L. Carr.....	650	
	Ruth D. Foxcroft.....	450	
	Helen E. Hazard.....	700	
	Martha A. Parker.....	600	

TABULAR VIEW — Continued.

Names of Schools	Teachers	Salaries	No. of Pupils Dec. 31, 1903
ly, Continued.....	Bertha L. Stratton.....	\$450	
	Dora Trefethen.....	650	
	Alice M. Tufts.....	700	
1, Grammar.....	Frederick B. Thompson.....	2,000	647
	George B. Colesworthy.....	1,000	
	Eliza M. Hussey.....	900	
	Eliza S. Paddack.....	800	
	Grace Clark.....	750	
	Mary A. Carmichael.....	700	
	Anna L. P. Collins.....	700	
	Sarah M. Grieves.....	700	
	Hattie L. Jewell.....	700	
	Annie B. Josselyn.....	700	
	Mary A. Macklin.....	500	
	Marcia L. Marple.....	700	
	Katharine I. Nicolson.....	700	
	Margaret F. O'Keefe.....	600	
	Annie A. Trelegan.....	700	
	Minnie F. Wilson.....	600	
Primary.....	Margaret T. Burke.....	770	158
	Elizabeth G. Nelligan.....	600	
	Julia A. Robinson.....	700	
	Clara W. Roggli.....	600	
ide, Primary.....	Elizabeth A. Tower.....	770	147
	Amanda M. Alger.....	700	
	Mary A. Burke.....	700	
	Hattie A. Thayer.....	550	
s, Grammar.....	W. Mortimer MacVicar.....	2,000	540
	Sara A. Bailey.....	900	
	Emily R. Pitkin.....	750	
	Susan M. Adams.....	700	
	Mary Blair.....	700	
	Elizabeth M. Breslin.....	550	
	Mary M. Brigham.....	700	
	Susan L. Keniston.....	700	
	Evelyn B. Kenney.....	700	
	Ada M. Litchfield.....	700	
	Nina M. Marsh.....	700	
	Clara E. Phinney.....	500	
	Ida G. Smith.....	700	
	Caroline M. Williams.....	700	
1, { Grammar.....	Arthur C. Wadsworth.....	2,000	338
{ Primary.....	Alice G. Teele.....	900	137
	Carrie J. Allison.....	700	
	Fannie P. Browning.....	700	
	Ella E. Buttrick.....	700	
	Mary A. Connelly.....	700	
	Anna M. Lyons.....	500	
	M. Ursula Magrath.....	600	
	H. Maud McLean.....	700	
	Louise I. MacWhinnie.....	450	
	Gertrude E. Russell.....	700	
	Loretta L. Shaw.....	700	
it, Primary.....	Elmira F. Hall.....	720	201
	Katherine A. Gaskill.....	600	
	Marion Prescott.....	700	

TABULAR VIEW — Continued.

Names of Schools	Teachers	Salaries	No. of Pupils Dec. 31, 1908
Sargent, Continued	Emma G. Wentworth	\$500	
Shepard, { Grammar	Evelyn J. Locke	900	{ 205
Shepard, { Primary	Corabelle H. Bates	600	
	Mary F. Calnane	700	{ 114
	Florence M. Dudley	700	
	Alice M. Gage	700	
	Mary M. Gilman	700	
	Theresa H. Mahoney	700	
	Ellen O'Keefe	550	
Sleeper, { Grammar	A Estelle Ingraham	900	{ 121
Sleeper, { Primary	Emily Bissell	700	
	Butella E. L. Conland	700	{ 168
	Evelyn M. Dormer	700	
	Elizabeth O. Haynes	600	
	Melissa M. Lloyd	700	
	Margaret E. Quinn	550	
	Blanche E. Trefethen	700	
Stearns, Primary	Fannie E. Higgins	770	180
	Maria J. Bacon	700	
	Ellen A. Cheney	700	
	Eva A. Taylor	700	
Tarbell, Primary	Emma J. Young	770	179
	Florence J. Alley	700	
	Carrie P. Pierce	700	
	Anna H. Welsh	550	
Taylor, { Grammar	Ella R. Avery	900	{ 136
Taylor, { Primary	Mary A. Boland	700	
	Bridget T. Boyle	700	{ 282
	Lillian M. Canty	700	
	Lillian W. Davis	500	
	Bertha V. Jameson	650	
	Cecilia F. Leahy	700	
	Mary A. Maguire	450	
	Eleanor M. Stevens	500	
	Mabelle S. Welsh	600	
Thorndike, Grammar	Ruel H. Fletcher	2,000	534
	Harriet A. Townsend	900	
	Mary E. Nason	800	
	Laura A. Westcott	750	
	Flora E. Cooter	500	
	Jennie W. Cronin	500	
	Grace W. Fletcher	700	
	Margaret J. Griffith	500	
	Harriet M. Hanson	700	
	Emma A. Hopkins	700	
	Lillian H. Kenney	550	
	Ellen M. Plympton	700	
	Susan L. Senter	700	
	Lydia A. Whitcher	700	
Washington, Grammar	John W. Freese	2,000	420
	Blanche E. Townsend	900	
	Alice P. Fay	750	
	Katharine F. Callahan	500	
	Eldora J. Clark	700	
	Mary L. Ellis	700	
	Helen G. Fulton	600	

TABULAR VIEW — Continued.

Names of Schools	Teachers	Salaries	No. of Pupils Dec. 31, 1903
ngton, Continued...	Winifred L. Kinsley.....	\$700	
	Emma Penney.....	700	
	Margaret J. Penney.....	700	
	Bessie H. Pike.....	700	
	Hattie Shepherd.....	700	
er, Grammar.....	John D. Billings.....	2,000	754
	George L. Farley.....	1,800	
	Alice C. Phinney.....	900	
	Martha N. Hanson.....	800	
	Ada A. Billings.....	750	
	Mabel T. Ashley.....	700	
	Charlotte M. Chase.....	700	
	Fanny F. Curtis.....	700	
	Susan I. Downs.....	700	
	Gertrude B. Duffy.....	600	
	Josephine Hills.....	700	
	Gertrude I. Johnson.....	700	
	Minnie V. Reid.....	700	
	Harriette E. Shepard.....	700	
	Olive L. Slater.....	700	
	Maud A. Sumner.....	700	
	Ellen F. Watson.....	700	
	Katherine L. Wight.....	650	
ngton, { Grammar...	Herbert H. Bates.....	2,500	{ 421
{ Primary....	Sarah J. Gunnison.....	1,000	{ 332
	Margaret Kidd.....	1,000	
	Mary I. Vinton.....	1,000	
	Carrie H. Stevens.....	900	
	Grace F. Chamberlain.....	650	
	Training Class.....	8,829	
d, Primary.....	Katharine E. ayes.....	810	568
	Sally N. Chamberlain.....	700	
	Elizabeth M. Crowley.....	550	
	M. Elizabeth Evans.....	700	
	Ella F. Gulliver.....	700	
	Julia S. Gushee.....	700	
	Mary E. G. Harrington.....	700	
	Katherine M. Lowell.....	700	
	Mary A. O'Hara.....	650	
	Belle Menard.....	700	
	Gertrude S. Thayer.....	450	
	Eliza D. Watson.....	700	
n, Primary.....	Grace R. Woodward.....	700	
	*M. Carrie Dickman.....	780	231
	Addie M. Bettinson.....	700	
	Mary H. Brooks.....	700	
	Georgianna P. Dutcher.....	700	
	Genevieve S. Flint.....	700	
	Agnes Ross Smith.....	600	
{ Boardman.....	Mary B. Pratt.....	700	54
{ Corlett.....	Hattie P. Russell.....	600	
	Sarah S. Wells.....	700	43
	Annie M. Dodd.....	600	
s. { Dunster.....	Clara A. Hall.....	700	27
{ Gannett.....	Carrie E. Shepherd.....	700	50
	Marion L. Akerman.....	600	

* Died January 23, 1904.

REPORT OF SCHOOL COMMITTEE.

TABULAR VIEW — Concluded.

Names of Schools		Teachers	Salaries	No. of Pupils Dec. 31, 1903
Kinder- gartens	Gore	Selma E. Berthold.....	\$700	56
		Freedrica Mark.....	450	
	Lowell	Melinda Gates.....	700	41
		Annie L. Crane.....	450	
	Merrill.....	Caroline A. Leighton.....	700	61
		Gretchen K. Hager.....	600	
	Peabody	Julia L. Frame.....	700	40
		Irene L. Phelps.....	450	
	Riverside	Edith L. Lesley.....	700	59
		Olive M. Lesley.....	600	
	Shaw.....	Harriette E. Ryan.....	700	59
		Leonice S. Morse.....	600	
	Sleeper	Mabel S. Adams.....	700	61
		Caroline E. Simpson.....	600	
	Taylor	Mary F. Leland.....	700	62
		Della E. Cabot.....	500	
	Wellington.....	Gertrude M. Gove.....	700	50
		Florence Rice.....	600	
	Willard, A. M....	Alice V. McIntire... ..	700	50
		Anna M. Gage.....	500	
	Willard, P. M....	Jennie S. Clough.....	650	51
		Eva C. Katon.....	450	

TEACHERS OF SEWING — Agnes Gordon	\$700
Alice H. Nay	600
Nancy T. Dawe	600
DIRECTOR OF MUSIC — Frederick Elmer Chapman	2,000
ASSISTANT IN MUSIC — Georgia E. Martin	800
DIRECTOR OF DRAWING — Peter Roos	1,900
ASSISTANT IN DRAWING — Lucia N. Jennison	800
DIRECTOR OF NATURE STUDY — Sarah E. Brassill	1,000
DIRECTOR OF PHYSICAL TRAINING — Sara E. Boudren	900
INSTRUCTOR OF PHYSICAL TRAINING IN THE HIGH SCHOOLS — Bessie W. Howard	750
SUPERINTENDENT — Francis Cogswell	3,500
SUPERVISOR OF PRIMARY SCHOOLS — Mary A. Lewis	1,200
AGENT — Sanford B. Hubbard	2,100
CLERKS — Althea B. Frost	750
Myrta E. Smith	700
PORTER — John Lemon	600
TRUANT OFFICERS — Lucian S. Cabot	1,000
John Carmichael	1,000
William H. Porter	1,000
Thomas F. Riley	1,000

SUMMARY.

of pupils in Latin School	506
of pupils in English High School	579
of pupils in Rindge Manual Training School	321
of pupils in Grammar Schools	6,928
of pupils in Primary Schools	5,887
of pupils in Kindergartens	764
Total	14,925
of pupils belonging to the public schools December 31, 1903	14,747
of pupils, 1903	188
of pupils, 1902	253
of pupils, 1901	62
of pupils, 1900	332
of pupils, 1899	314
of pupils, 1898	476
of pupils, 1897	422
of pupils, 1896	714
of pupils, 1895	250
of pupils, 1894	278
of pupils, 1893	185
of pupils, 1892	210
annual increase of pupils from 1892 to 1902 (inclusive)	313

COST OF INSTRUCTION.

Schools and Officers	Cost of Instruction	Average Number of Pupils	Cost per Pupil
School	\$25,472 00	474	\$53 74
High School	27,109 83	493	54 99
Training School	21,125 50	262	80 63
g School (Teachers)	15,429 50	894	17 26
ar Schools (except Training School)	129,926 92	6,222	20 88
r Schools (except Training School)	87,764 29	5,364	16 36
artens	17,503 26	688	25 44
s of Sewing	1 900 00	....	....
rs of Music	2,800 00	....	....
rs of Drawing	2,644 00	....	....
r of Nature Study	1,000 00	....	....
rs of Physical Training	1,615 00	....	....
ite Teachers	2,189 50	....	....
tendent	3,500 00	....	....
sor of Primary Schools	1,200 00	....	....
.....	2,100 00	....	....
.....	1,380 00	....	....
Officers	3,970 00	....	....
.....	600 00	....	....
Total	\$349,179 80	14,397	\$24 25

instruction in Evening High School	\$1,683 00
instruction in Evening Elementary Schools	5,000 50
instruction in Evening Drawing Schools	*1,428 00
Total	\$8,111 50

he Director of Drawing is principal of these schools. No part of his salary has been in this amount.

REMARKS ON THE STATISTICS.

The number of pupils registered in the day schools during the year ending June, 1903, is 16,394; the average number belonging, 14,397; the average daily attendance, 13,250. In the per cent of attendance there has been a decrease of eight-tenths of one per cent. The number belonging to the schools in December, 1902, was 14,747; in December, 1903, 14,935, an increase of 188. The cost of instruction, which includes the salaries of teachers, superintendent, supervisor, agent, clerks, and truant officers, is \$349,179.80. The total cost of the day schools, which in accordance with the statutory definition of the support of schools includes the cost of instruction, of text-books and supplies, of incidental expenses, of the care of truants, of the care of schoolhouses, and of the transportation of pupils, is \$429,554.39.

The average attendance at the evening schools during the school year 1902-1903 was 793, an increase of 99, and the number of teachers, including the principals, was 58. The total cost of these schools, which includes the salaries of teachers, the cost of text-books and supplies, of fuel, light, and salaries of janitors, is \$10,196.27.

While Cambridge expends a large amount for her schools, there are *two hundred thirty-one* towns and cities in the State which make a larger expenditure in proportion to their wealth. In a list of the thirty-three cities, arranged numerically according to the percentage of their taxable property appropriated to the support of public schools for the year 1902-1903, Cambridge is the *twenty-fourth*. In a list of the towns and cities of the State, arranged numerically according to the sum appropriated for each child in the average membership of the public schools, Cambridge is the *thirty-sixth*.

These statistics relating to the schools of the State are taken from the sixty-seventh annual report of the State Board of Education.

TEXT-BOOKS AND SUPPLIES.

At a meeting of the Board in December the committee on supplies submitted a detailed report of the expenditures of that committee for the year. The report is as follows:—

In accordance with Section 30 of the Rules of the School Board, the Committee on Supplies submits its nineteenth annual report, it being for the year ending July 1, 1903:—			
Stock on hand July 1, 1902	.	.	\$4,712 97
Purchases and expenditures to July 1, 1903	.	.	20,693 64
			<hr/>
Cash sales and damages	.	.	\$567 44
Delivered to schools, officers, etc.	.	.	19,163 38
			<hr/>
			19,730 82
			<hr/>
Stock on hand July 1, 1903	.	.	<u>\$5,675 79</u>

The purchases and expenditures have been :—

For text-books	\$6,041 98	
Desk and reference books	223 23	
Copy books	674 88	
Apparatus and furnishings	2,574 12	
Printing, \$161.50; expressage and labor, \$430.59	593 09	
Repairing books, \$674.71; diplomas, \$195 63	870 34	
Tuning pianos	24 25	
Miscellaneous supplies, etc.	9,370 58	
		\$20,371 42
Less the value of exchanges		43 75
		<u>\$20,327 67</u>

The net cost of text-books and supplies is as follows :—

Stock on hand July 1, 1902	\$4,712 97	
Bills paid by City Treasurer	20,327 67	
		\$25,040 64
Less stock on hand July 1, 1903	\$5,675 79	
Cash paid to City Treasurer, sales and damages	567 44	
		<u>6,243 23</u>
We have, net cost of all schools and officers		<u>\$18,797 41</u>

or an average cost per pupil of \$1.306. The average cost per pupil per annum for nineteen years has been \$1.265.

The annual cost per pupil for text-books and supplies since the introduction of the free text-book law is as follows :—

Year	Cost per Pupil	Year	Cost per Pupil	Year	Cost per Pupil
1885	\$1.850	1892	\$1.149	1898	\$1.268
1886	1.170	1893	1.109	1899	1.225
1887	1.051	1894	1.243	1900	1.740
1888	1.068	1895	1.152	1901	1.203
1889	0.960	1896	1.436	1902	1.400
1890	1.334	1897	1.004	1903	1.306
1891	1.248				

The cost of each grade of schools for text-books and supplies is as follows:—

	Net Expenses	Cost per Pupil				
		1903	1902	1901	1900	1899
Latin School.....	\$1,641 32	\$3.463	\$3.900	\$3.935	\$6.804	\$3.245
English High School.....	1,757 09	3.564	3.641	4.236	4.642	3.888
Manual Training School.	4,309 34	16.791	11.564	11.707	13.515	.....
Training School, teachers	593 76	.664	.707	.704	.....	.....
Grammar Schools.....	4,394 30	1.070	1.152	1.068	1.747	1.476
Mixed Schools.....	3,022 32	.907	1.140	.933	1.573	1.001
Primary Schools.....	1,571 40	.379	.528	.431	.396	.425
Kindergartens.....	294 19	.428	.630	.329	.692	.303
Evening Schools.....	383 04	.....	.....	.....	.....	.....
Special Teachers.....	73 61	.....	.....	.....	.....	.....
Officers of Board.....	141 04	.....	.....	.....	.....	.....
Miscellaneous expenses (not chargeable to any grade).....	547 75	.....	.....	.....	.....	.....
	\$18,819 16	.....	.....	.....	.....	.....
Less profit on sales.....	21 75	.....	.....	.....	.....	.....
	\$18,797 41	\$1.306	\$1.400	\$1.203	\$1.740	\$1.225

The considerable decrease in the cost of text-books is because fewer new books were introduced and also because the expectation of a change in the text-books in language and geography led the agent to defer as far as possible replacing that class of books as usual. Partly for the same reason more books than usual have been repaired. The expenditures for new books next year will be correspondingly increased. The large increase is in the item miscellaneous supplies and is due partly to the higher cost of paper and partly to the fact that less paper than usual was on hand July 1, 1902.

Last year \$2,000 was asked for in addition to the regular appropriation for text-books and supplies in order to procure additional lathes for the Rindge manual training school. This was made a separate item in the estimates as these lathes were needed especially to accommodate the Lawrence scientific school students who use the school in July and for whose tuition the college pays each year almost enough to cover this outlay. This past year \$1,808 was so received. This expenditure had to be made in the opinion of the committee on high schools and this committee, and the school board at the request of these two committees has asked, hitherto in vain, that the revenue so received should be appropriated for this purpose, in addition to the regular appropriation from the tax levy.

On the usual basis, taking the number of pupils in the schools December 1, 1903, the cost of ordinary text-books and supplies is estimated at \$18,892.78 for the current financial year. In addition to this, two new schools will have to be supplied with apparatus, desk and reference books, etc. One new piano should be bought for the Washington school and two for the Kelley school, one for the hall and one for the kindergarten, at a total cost of \$1,000, and three sloyd outfits. As stated above, the cost of the new geographies and language books will add about \$2,800 to the expenses. The appropriation required for the purchase of text-books and supplies during next year should be \$4,000, exclusive of any bills which the city auditor may have carried over from last year.

This committee has also the duty of providing flags and flagstaffs when needed, and estimated last year \$200 for this purpose. As the appropriation was only \$100, of which \$99 was spent, many things had to be left uncared for. The estimate for next year is \$300.

The committee on supplies wishes to commend in the highest terms the efficiency of the agent whose economy and accuracy in the purchase and care of the text-books and supplies has in its opinion been of very great advantage to the public schools and to the treasury of this city.

CHANGES IN TEXT-BOOKS.

The following is the rule relating to the changes in text-books:—
All propositions for changes in text-books shall be made by the superintendent. Whenever he recommends a change he shall appoint two persons, one of whom shall be a teacher in the service of the city, who shall make written reports on the merits of the books recommended. These reports and a like report by the superintendent shall be kept on file in the office of the superintendent, open to inspection by members of the board only. All changes of text-books recommended to the Board shall be referred to the committee on text-books."

Under this rule the following text-books have been adopted by the board during the year 1903:—

For use in the Latin school, Botsford's Ancient History for Beginners.

For use in the English high school, the Miller Reading and Dictation book written in Gregg Shorthand.

For use in the Rindge manual training school, Robert Hart Bradbury's Elementary Chemistry; Jackson's Elementary Electricity and Magnetism.

For use in the grammar schools, Dunton and Kelley's Inductive Course in English; Southworth's New Lessons in Language; Southworth's English Grammar and Composition; Frye's Elements of Geography; Frye's Grammar School Geography; the Natural Elementary Geography; the Natural Advanced Geography.

SCHOOL ACCOMMODATIONS.

The following is from the report presented by the committee on schoolhouses:—

In compliance with Section 30 of the Rules of the School Board, the Committee on Schoolhouses respectfully submits the following:—

During the year 1902-1903 one schoolhouse has been completed and another begun, and two have been sold.

The schoolhouse on Willow street, which was begun considerably more than a year ago, is completed and was occupied for the first time October 2. It has been named the "Kelley School" in honor of the late Joseph J. Kelley.

The building is of brick with granite base, terra cotta trimmings, and galvanized iron cornices. It contains a hall, sixteen class rooms, rooms for office, storeroom and teachers' rooms, a library, and has ample sanitary arrangements. It is well arranged, well lighted, and the provisions for heating, ventilation, and sanitation seem ample. When it is fully furnished it will afford excellent facilities for school work.

The teachers and pupils of the Allston school and of the Shaw kindergarten were transferred to the Kelley school which has a membership of nineteen teachers and seven hundred thirty-four pupils, comprising a kindergarten and all the grades of the primary and grammar schools. In accordance with a vote of the school committee, the Shaw kindergarten will retain its name in honor of Mrs. Quincy A. Shaw, who established and maintained a number of kindergartens in Cambridge at her own expense for many years.

A schoolhouse is in process of building on the land bought last year on Elm street. It is of brick with sandstone sills and wooden cornices. It has been named the "Fletcher School" in honor of Ruel H. Fletcher, master in the Thorndike school since December, 1857. It is designed to contain a hall, fifteen class rooms, a principal's room, teachers' rooms, and a storeroom.

The opening of the Kelley school relieved the pressure under which the Harvard, Wellington, and Roberts schools have labored for several years. When the Fletcher school is completed there will be ample

accommodations for the pupils in that section of the city. The need of additional rooms for the rapidly growing school population in the section of the city comprising Wards Six and Seven is becoming urgent. This need will be supplied by the proposed schoolhouse on the "Mill Pond" lot, though arrangements should be made for building a primary schoolhouse on the Dana lot on Centre street in the near future.

JANITORS.

Section 31 of the city charter provides that "The mayor shall appoint the janitors of schoolhouses, subject to confirmation by the school committee, and may remove them at pleasure for cause assigned; and such janitors shall perform their duties under the direction of the school committee."

Under the direction of the committee on schoolhouses, the agent supervises and directs the work of the janitors, and reports to the committee such matters as seem to need consideration. The principals of the schools report each month whether or not the work is done in a satisfactory manner.

The following is from the report of the committee on schoolhouses:—

Early in the year, John J. Roach, janitor of the Peabody schoolhouse, was appointed head janitor. His work during the year has been highly satisfactory. The work of the janitors has been more closely supervised, the repairs and the heating and plumbing in the new buildings have been watched very closely by him and in many instances have been much improved on his suggestions. He takes the place of Edward B. Dale in supervising the heating of the schoolhouses. He has shown himself not only an experienced janitor in the cleaning and care of the buildings, but an expert in the installing of plumbing and heating apparatus.

The work of the janitors, with some exceptions, has been satisfactory. The standard of work of the janitors is being gradually raised, and the men appointed this year promise to keep up to the standard.

In Memoriam

FRANK A. HILL

September 12, 1903

Head Master of the English High School
1886—1893

Secretary of the State Board of Education
1894—1904

JAMES S. BARRELL

February 5, 1904

Master of the Putnam School
1874—1881

Master of the Harvard School
1881—1901

FLORENCE A. ROGERS

May 11, 1903

Principal of the Felton School
1892—1903

M. CARRIE DICKMAN

January 28, 1904

A teacher thirty-five years

Principal of the Wyman School
1898—1904

IN MEMORY OF HON. FRANK A. HILL.

[Mr. Hill was Head Master of the Cambridge English High School from 1886 to July, 1893. He was chosen Secretary of the Massachusetts Board of Education in 1894.]

The late Hon. Frank A Hill was for seven years the head master of our English high school being called to this position from the high school in Chelsea, of which he had been the principal for sixteen years. He entered upon his work in Cambridge at the opening of the schools in September, 1886. When the Rindge manual training school was established in 1888, the academic department came under the immediate supervision of Mr. Hill, and undoubtedly it was the interest he manifested in the work of this school that led to his appointment in 1893 to the position of head master of the Mechanic Arts high school, Boston. In 1894 he was chosen Secretary of the Board of Education.

Mr. Hill became master of the English high school at the time the Classical and English departments of our former high school were made separate schools. Under his management the school in all its interests greatly prospered. The number of pupils increased from three hundred thirty-five in 1886 to six hundred seventy-nine in 1893. A new school-house was built which contains many admirable features made at his suggestion; in fact, the greater part of the internal arrangements was of his planning.

Mr. Hill's influence upon teachers and pupils was inspiring and uplifting. His work was done on a high plane. The school committee in accepting his resignation expressed their high approval of his services, referring not only to the intellectual training of his pupils but to their moral training as well.

Mr. Hill continued to reside in Cambridge, and took a deep interest in all the affairs of the city. He was highly esteemed not only by his former pupils and those who had come into close relations with him, but by the citizens at large.

It is especially fitting, therefore, that the following words of tribute selected from the many that have been written should have a permanent place in this report:—

From the Message of Governor Bates.

“The educational interests of Massachusetts have suffered a great loss in the death of Frank A. Hill, who had for nine years been the devoted and efficient Secretary of the State Board of Education. He served the State unselfishly, recognizing that in education is to be found the guaranty of the material and moral interests of our people.”

From the Minutes of the Board of Education.

"Dr. Hill was a true lover of his chosen profession. To its advancement he gave the strength of careful study and earnest effort. Without self-seeking he was called to positions of great responsibility, and his work therein witnesses for better ideals and broader conceptions of popular education. His was a long, honored, and unselfish service; and in this service there was no element finer or more enduring than the manliness of Dr. Hill's own character."

From the Memorial Statement adopted by the Corporation of the Institute of Technology. Mr. Hill was a member of the Corporation both by election and by virtue of his office.

"Greater than his recorded acts was Dr. Hill's personal influence upon the thousands of teachers and pupils who came under his supervision. He was remarkably successful as a teacher, extraordinarily sympathetic as a man. He possessed, moreover, rare courtesy, unfailing optimism, and tireless enthusiasm. Therefore his presence in a school room was an inspiration to both teacher and pupil. His long association with secondary education, his thorough understanding of the problems of the preparatory school, his close relations with education throughout the entire State, above all his genial wisdom and optimism, made him a most valuable accession to this Board."

From the Cambridge Tribune.

"The venerable Dr. Hale at the funeral services spoke of Mr. Hill as a man of peculiar gifts, one who was raised up to do the great work that had fallen to his hands. He had done his work well; he had advanced the cause of education in the State; he had upheld the dignity of the teaching profession; he had believed and shown that education was more than instruction; he had been an uplift and a stimulus to pupils and teachers wherever he went."

Dr. McKenzie in a paper published by the young people of his church. (Dr. McKenzie was absent from Cambridge at the time of the funeral services.)

"He was born with large natural powers, and he went on to achieve greatness. He made his own way. He first prepared for life by study, and then entered on the work which was near at hand. He was advanced because he was required for higher positions. He did not need to seek promotion. It was enough to deserve it, and to make men feel that he

was needed. He was set at last in the highest place in our system of public education, and more and more his wisdom was felt and his influence was enlarged."

Professor Hanus in the Chicago School Review.

"Dr. Hill showed admirable personal qualities and rare ability as a teacher and executive officer. Every school over which he presided felt the influence of his genial personality, his industry and conscientious devotion to duty, and his high ideals of scholarship, and was carried on in the spirit of helpful co-operation between pupils and teachers.

As Secretary of the Board of Education, he exhibited the same sterling qualities as a man and as an educational officer that marked his earlier career. His annual reports are not only useful and interesting to residents of Massachusetts, but are among the most important contributions to contemporary educational literature.

Dr. Hill's life was full of activity. Tireless industry and devotion to duty were prominent characteristics of his nature, and marked his private life no less than his public career."

Ray Greene Huling in "Education."

"The traits especially characteristic of Dr. Hill were his versatility in adapting himself to the various demands made upon him, his conscientious attention to details, his constant recognition of the best there was in pupils and people, his inclination toward constructive rather than destructive criticism and work, his evenness and courtesy of spirit under all conditions, his progressiveness in educational thought, side by side with a profound sympathy with teachers and a full recognition of the limitations under which they work. As a teacher he was uniformly successful and inspiring, always commanding the respect, love, and loyalty of his pupils as well as of his associate teachers. Former pupils tenderly recall how clearly he detected the possibilities in them which they themselves failed to see, and by the power of encouragement actually developed in them fine and enduring qualities of heart and mind.

Dr. Hill gave himself unreservedly to the advancement of public education, sparing not himself and using to the full his splendid opportunities. The spirit of his scholarly, true, and vigorous life has entered into countless lives, bringing to them noble enrichment and glad inspiration."

From the Milford Journal.

"Coming to Milford in the very prime of early manhood, he quickly gave evidence of the possession of those sterling qualities of mind and heart

which have ever been so abundantly manifested in all the duties and responsibilities of his long and valued service in the cause of education. To his pupils and co-workers he was always helpful and sympathetic, a genuine inspiration to better effort. We believe that no teacher ever held a warmer place in the hearts of his pupils, or commanded a more lasting affection than has been his during the nearly two-score years which have passed since his coming to Milford."

From the Cambridge Chronicle.

"Naturally, in Cambridge, we think of him first as a teacher. As principal of our English high school he held high rank, else he had never been promoted to the higher place. He was, first of all, a gentleman, in all his instincts and in all his words and acts. He had a conception of the obligation of the teacher to the pupil, as well as of the obligation of the pupil to the teacher, and he endeavored to meet his obligation. His personal influence was most salutary. He gave himself to his pupils without reserve and they appreciated it and responded giving him their heartiest affection and the best they had and were. His kindness of spirit and manner opened for him many an avenue to a pupil's mind which would have been closed to a man of different ways.

In the larger work to which he devoted the last years of his life, he rendered the State the same valuable service which he gave to Cambridge. The Massachusetts standard set high by great educators was not lowered by him. On the contrary he was progressive, and kept himself abreast of the latest methods of the country, and was a leader in all educational movements."

From the Latin and High School Review.

"Hon. Frank A. Hill was a man to be looked up to and admired. We, his former pupils, who have benefited by his unceasing labor, realize the vast amount of good he has done. As we study his life and character we cannot but feel a new inspiration, a great desire to be more like him, to work unselfishly for others, just as he did, and to aid as much as we can in carrying on the work so nobly begun."

From the Journal of Education.

"Mr. Hill was a thoroughly public-spirited man. He considered the public good in all his plans for the development of the educational system of the State. He was a full believer in the benefit of a thorough training. He wanted a high tone in every branch of the public school administration and he labored to bring the standard up to as high a mark as possible.

It was his theory that the high school should be more than a feeder to the college. It should be a complete institution in itself. It was to extend the thoroughness of the State's educational system, that he labored to complete the system of superintendence until it was made compulsory upon every city and town in the State. It was under him that the laws for a high school education for every child were brought to their present perfection, and the State treasury was made the ultimate source of the money for the payment of the expense. Transportation of pupils, payment of tuition for the needy, financial appreciation of good teachers in towns financially weak, care for the truants and habitual school offenders; these have been some of the measures which marked his administration of nine busy years. They were advocated patiently and moderately, but persistently, and the system is now well developed in respect to those matters of detail."

From the School Journal.

"Mr. Hill was a scholarly, true, and courteous man. He possessed patience and infinite tact. His heart went out to everyone genuinely interested in the improvement of the educational opportunities afforded the young. He worked quietly, persistently, and circumspectly for the spread of his convictions, seeking his reward in the attainment of the end in view. His self-effacement was no mean factor in the wonderful success attending his varied and extensive undertakings. It was Mr. Hill's way to fix his eye steadfastly upon the accomplishment of reforms and to let personal reward go to those who aided him."

The wise selection of teachers is of vital importance to the welfare of schools. Mr. Hill's closing words in his last annual report may well be remembered by school officials. They are as follows:—

"It should not be overlooked that the most important element in the teacher's qualifications is not to be found in academic scholarship, essential as this is, nor in the power to hold a school in order, essential also as this is, but in the rarer and finer power of leading the child to act judiciously, earnestly, and advantageously for himself in the enlargement of his executive and productive capacity, in the acquisition of knowledge and particularly of those larger underlying principals that enable him to classify and utilize knowledge, in the cultivation of a sturdy civic spirit, and in the building up of a well-rounded character."

Mr. Hill had that "rarer and finer power" as a teacher, and in his wider field of action his uplifting influence was felt in every department of educational work.

MR. JAMES S. BARRELL.

Mr. Barrell was appointed master of the Putman school, October, 1874, and was transferred to the Harvard school, April, 1881. After more than twenty years of service in the Harvard School he declined a reelection having been a teacher for fifty consecutive years, more than half of which had been in Cambridge.

At the time of his withdrawal from school his faithful service and sterling qualities were recognized by the school committee in a series of resolutions, and the community showed its appreciation of the man and of his work by banquet and gift. Mr. Barrell continued to reside in Cambridge, and to the last retained his interest in the schools and in all educational questions. At the funeral services Dr. McKenzie said: "We are here to-day to pay tribute to a teacher. He was not a mere scholar. He had a rare trait — he knew boys. He could laugh with them, sympathize with them. He always saw the cheerful side of things, and so he brightened all around him. He gave wide range to his teaching. He taught honesty, truth, virtue, and above all, patriotism. He taught boys that they should fear God and love their country. He taught them to revere the flag, not because of its colors, but because of the country beneath it. He gave to the world what it so much needs — the blessing of a truthful soul."

The school report for 1901 contains a more extended account of Mr. Barrell's connection with the schools.

MRS. ROGERS AND MISS DICKMAN.

Mrs. Florence A. (Davis) Rogers taught for two years in the Felton school before her marriage. In 1892 she returned to the work of teaching, and was made principal of the school in which she had formerly taught. This action of the committee showed the estimation in which her services were held. Mrs. Rogers performed the duties of principal wisely and judiciously and was an excellent teacher.

Miss M. Carrie Dickman was a teacher in the Reed school for five years, and was then transferred to the Wyman school. She became the principal of this school in 1898. Her whole service covered a period of thirty-five years. Miss Dickman had rare qualities of mind and heart. She taught well, she governed well, and more than this, she did it in a spirit that made her service of inestimable value. Fortunate indeed were the children who came under her influence.

At the meeting of the school committee in February the following order was made a part of its records: —

"The school committee of Cambridge records the death of Miss M. Carrie Dickman with sincere sorrow. For thirty-five years she had been

a teacher in our schools and at the time of her death was the principal of the Wyman school in North Cambridge. She was pre-eminently a successful teacher of children, a wise and tactful executive, and an inspiration for the entire teaching force of the city. In this recognition of her worth we feel sure we voice the general sentiment of the citizens of the city she has served so well and the individual opinions of those whom she has taught."

FIFTIETH ANNIVERSARY OF THE WEBSTER SCHOOL.

[The following account of the celebration of the fiftieth anniversary of the Webster School was written by the principal, Col. John D. Billings.]

A unique event in the history of the schools of Cambridge occurred at the Webster school, Wednesday, May 27. It consisted of a public celebration of the founding of the school fifty years before. The building was dedicated in March, 1854, but to assure pleasanter weather the celebration was deferred to the above date, and a beautiful day for a delightful occasion was the result. The program occupied the entire day, winding up with a banquet of the graduates at the Hotel Somerset, Boston, in the evening.

The school opened at the usual time in the morning, the public being invited to visit the various rooms and inspect the work done in drawing during the year, which had been carefully arranged on the walls. At 10.30, grades four, five, and six proceeded in turn to the assembly hall, where their representatives presented to the school two hundred twenty interesting volumes. These form the nucleus of a library for each room, accessible to the pupils in spare moments. Following these came grade seven, its spokesman presenting a large and handsome bronze urn. It was already in place in front of the building and filled with plants. Finally grade eight came to the stage, and by their representatives crowned the program of the morning by unfurling two beautiful stands of colors, the national and state, and presented them to the school as their anniversary gift. All these were accepted for the school by the principal in a few brief words.

The more formal exercises were reserved for the afternoon, and included an address of welcome by the principal, a poem by a lady graduate, and a historical address by the superintendent of schools. Then followed the presentation of two engrossed memorials suitably framed, the first bearing the names of one hundred forty-one Webster school boys who served the country in the Civil War, and the second bearing the names of twenty-eight Webster school boys who served in the war with Spain. These were accepted for the city by His Honor the Mayor and for the school by the principal.

The concluding event of the afternoon consisted in the unveiling and presenting to the school, in behalf of the younger graduates and the class of 1903, of a life-size oil portrait of the principal. This was accepted for the city and school in a letter written by Mr. Charles F. Wyman, the sub-committee in charge of the school, who was detained at home by illness.

The event was made more noteworthy by bringing to practical completion the decoration of the interior of the school building with works of art. Graduates, undergraduates, and friends subscribed twelve hundred dollars for this purpose, and the result is seen in what is probably one of the best decorated school buildings in New England.

The celebration owes its great success to the hearty accord with high parents, teachers, pupils, and graduates united in the work. They formed a constituency worthy of any school.

The superintendent will add that the Webster school is one of the larger schools in the city. For more than thirty years it has been under the charge of Mr. Billings, who entered upon his work in September, 1872. Since that time nearly one hundred different teachers have been connected with the school for a longer or shorter period, and eighteen hundred pupils have been graduated.

This anniversary occasion was one of great interest. The plans had been wisely formed and were admirably carried out. This was to be expected, for Colonel Billings has the qualities of leadership. Had he been older when he hastened to the defence of his country, there is no doubt that before the war ended he would have attained high rank as a commanding officer. The appointment which gave him his title of colonel as a recognition of brave service in the hour of his country's peril; and his record as a teacher and citizen gives proof of his scholarly attainments, his manly character, and patriotic interest in civil affairs.

CHANGES DURING THE PAST FIFTY YEARS.

[The following is from the address of the superintendent of schools given on the occasion of the fiftieth anniversary of the Webster School.]

During the past fifty years many important changes have taken place in the organization and classification of the schools of the city. Formerly they were classified as alphabet, primary, middle, grammar, and high. In 1863 the middle schools were united with the grammar, and the alphabet with the primary. March 1, 1886, the classical and English departments of the high school were made two separate schools, called respectively the "Cambridge Latin School" and the "Cambridge English High School."

In 1888 the Rindge manual training school was opened under the name of the "Cambridge Manual Training School for Boys." For ten years Mr. Rindge paid the current expenses of the manual training department, the city providing for the academic instruction. On the first of January, 1899, Mr. Rindge gave the entire plant to the city, and in accepting the gift the school committee voted that hereafter the school should be known as the "Rindge Manual Training School." The follow-

ing from the school report for 1898 gives emphasis to the importance of this gift: "The city of Cambridge has received from Mr. Rindge other valuable gifts—a public library with several acres of land, a city hall, and a site for the English high school building—but in its far-reaching influence for good is it not probable that the manual training school touching as it does young life, will prove to be the richest gift of all?"

In 1870 a training school for teachers was established. The work was carried on for several years in connection with the Riverside primary school. In 1875 it was transferred to the Agassiz school, which contained both grammar and primary grades. In 1882 it was discontinued. After an interim of two years our present training school was opened. It was named the "Wellington Training School" in honor of Dr. Wellington, whose forty years of service made it especially appropriate that a school for the training of teachers should bear his name. It differs from the grammar and primary schools in this respect—all the grades, except the eighth and ninth, are taught by young teachers. Their work, however, is done under the immediate supervision of a master and three assistants, who are held responsible for the instruction and management of the school. At the present time nearly fifty per cent of the teachers in our grammar and primary schools are graduates of this school.

In 1853 there were seven grammar schools, each under the charge of a master and one or two assistants, there being ten assistants in all. The average number of pupils attending these schools was six hundred fifty-seven. It should be stated, however, that the middle schools had not then been united with the grammar schools. Had they been, the number of pupils in the grammar schools would have been twelve hundred. The number in the grammar schools at the present time is nearly seven thousand.

Kindergartens became a part of the public school system in 1889. They had been maintained for eleven years by Mrs. Quincy A. Shaw and ladies of Cambridge interested in the work. A petition bearing sixteen hundred names led to the establishment of these schools, the value of which cannot be estimated by their cost. It has been truly said that "they mean to many a child the difference between a happy, useful life, and one of wretchedness, if not of crime."

The first evening schools in Cambridge were opened in the winter of 1851-52, and the teaching was wholly voluntary. The school committee assumed the expense of warming the rooms, but the other expenses were paid by persons who believed such schools would be of benefit to the community. Evening schools were not maintained by the city till 1868, when three were opened for men and boys. The next year provision was made for women and girls. These schools were continued for ten

years with varying success, and were then closed for three or four years. In 1884 they were again opened, the legislature having passed an act requiring all cities and towns of ten thousand inhabitants or more to maintain such schools. In 1889 an evening high school was opened. During these recent years the work in the evening schools has been broadened, and they have become an important part of the school system.

In 1870 the legislature passed an act requiring every city and town of more than ten thousand inhabitants to make provision for giving free instruction in industrial drawing to persons over fifteen years of age. In compliance with this act, evening drawing schools were opened, and with the exception of two years, have been continued to the present time. Since 1890 they have been under the supervision of the director of drawing for the day schools.

Vacation schools were started in Cambridge by a committee of ladies interested in the welfare of children. For four years they were carried on under the direction of this committee, the expense being met by private contribution. In 1899 by an act of the legislature, the school committee of any city or town was authorized to establish and maintain vacation schools. For three years these schools have been supported by the city. In 1903 they were not in session, no appropriation having been made for them. Vacation schools are not established primarily for the purpose of giving more extended opportunities for an education, but rather that children who remain in the city during the long summer vacation (and there are thousands of them) may find something to do that will both interest and profit them.

In 1845 music was introduced into four of the grammar schools as an experiment. The school committee in their report for that year refer to the results as exceeding their most sanguine expectations, and the following year music was introduced into all the schools. The committee justify their act as follows: "The advantage of music in schools is threefold. First, when taught as a science, it is fine discipline for the youthful mind, scarcely inferior to the mathematics of which, in truth, it is a branch; second, as a valuable attainment, not to say accomplishment; and third, music in schools, used as an occasional refreshment, is among the most successful methods of securing order, cheerfulness, and vigor of application in severer studies. We would like to have all the children in the smaller schools able to sing together many innocent songs by rote; and the pupils in the higher schools, in addition to music for recreation and for exciting good affections, attempt the mastery of this wonderful science."

During the first five years there were three different teachers of music. Then came Mr. Lincoln's long term of service of more than forty

years. He resigned in 1890, and Mr. Chapman was elected to take his place. An assistant teacher of music has been employed since September, 1902.

Drawing came into the grammar and primary schools in 1869, and into the high school in 1871. In the high school a special teacher was employed, but in the other schools the instruction was given by the regular teachers. For more than fifteen years, except for a limited time, the work was carried on without special supervision; but in 1885 a director was appointed and since 1893 the director has had an assistant. When drawing was first introduced into the schools, it was looked upon by many as an ornamental study of little practical importance, and those favoring its introduction felt called upon to justify their course. It is now a required study, and its utility is fully recognized.

As an experiment, sewing was taught for two years in the Allston school, the work beginning in the fall of 1877. Although the results were satisfactory it was not included in the course of study until 1890. It is now taught in the grammar schools to the girls of the three lower grades, and to the boys of the fourth grade.

Cooking found its way into the schools through the efforts of the Cantabrigia Club. For several years this club provided the means of instruction for a class of girls of the ninth grade of the grammar schools. In 1899 provision was made for a course in domestic science in the English high school, and cooking was included in that course. It is also taught in the vacation schools and might well be included in the work of the evening schools.

In 1892 concrete geometry and physics were added to the studies of the ninth grade, and elementary botany to those of the primary grades and to the lowest grammar grade.

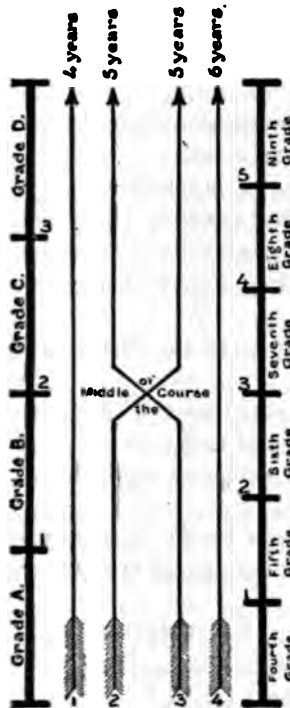
In 1893 the Ling system of physical training was introduced into all the grades of the primary schools, and later into those of the grammar grades. The essential aim of the teaching is to make the gymnastic period one of healthful exercise and recreation.

All these subjects, except music, have come into the schools during the past fifty years. It may be questioned, it *has* been questioned, whether our present course of study in the grammar schools is not too crowded. It is too crowded unless the subjects are wisely correlated. The course was adopted only after the most thoughtful consideration. A special committee was appointed to examine the courses in our grammar and primary schools. This committee gave freely of their time to the study of courses in other cities, and sought information from many persons whose practical experience made their views of special value.

It is now more than ten years since the course was adopted. One of its main features is its flexibility. A child may be four years in doing

the work, or five years, or six years, as his physical condition or mental capacity make it desirable.

As a result of this plan, more than fifty per cent of the pupils entering the high schools during the past eight years, did the work in the grammar schools in less than the full time of six years, forty-one per cent doing it in five years, and eleven per cent in four years; and the records show that the pupils who did the work in the grammar schools in the shortest time fully sustained themselves through the whole course in the high schools, even outranking those who had spent six years in the grammar schools.



Radical changes have also taken place in the primary schools. There are no classes of seventy or eighty and even ninety pupils under the care and instruction of one teacher as was frequently the case before 1860. Under the superintendency of Mr. Hale, the primary schools were reorganized, and the course of study was changed to meet the advanced views of primary education. In 1892 other changes were made, and a supervisor of primary schools was appointed.

Since 1890 the schools have come into close relation with the public library. From week to week books desired by teachers and pupils have been delivered at the schools. For several years the librarian has kindly prepared a list of books of special value to teachers which has been printed in the school reports.

During the past ten years the schools have received many gifts of pictures and books, or of money to be transmuted into whatever may be instructive and refining in its influence. The gifts have ranged from a single book to a library of more than six hundred volumes—from a single picture to three hundred to be divided among several schools—from a single piece of coral to the large collection of minerals at the Latin school and other schools. Two brothers gave five hundred dollars, and in two instances nearly one thousand dollars were subscribed by various persons.

The books and pictures and other gifts that have become the possession of the schools have a money value that might be estimated, but they are invaluable as an expression of the interest shown by teachers, pupils, and friends of the schools.

Arrow No. 1 indicates the four years' course; grades A, B, C, D. Arrow No. 2 indicates one of the five years' courses; grades A, B, 7, 8, 9. Arrow No. 3 indicates the other five years course; grades 4, 5, 6, C, D. Arrow No. 4 indicates the six years' course; grades 4, 5, 6, 7, 8, 9.

OUTLINE OF THE SELECTIONS FROM THE SCHOOL
REPORTS 1840 — 1874.

1840. Classification of the schools into alphabet, primary, middle, grammar, and high. No office more difficult and responsible than that of school committee.

1841. Five hundred ten visits by the committee during the year. The appointment of superintendent of schools suggested.

1842. School libraries for the benefit of the older scholars.

1843. Spelling inferior to what it was twenty or thirty years ago.

1844. Disfiguration of the schoolhouses. Irregularity of attendance. More attention to good manners and morals. Importance of sustaining the schools.

1845. Influence resulting from the education of the two sexes in the same school.

1846. Teacher's mission. Should seek to make good children, good brothers and sisters, good men and women, good and useful citizens.

1847. The cultivation of the moral and religious capacities and affections the highest purpose of education.

1848. The committee have the same motives for an economical expenditure of money as their neighbors. Examinations of the different schools.

1849. Commendation of the school system. Radcliffe College.

1850. The reading and pronunciation of the English language should receive increased attention in all the lower schools.

1851. We must look upon the conduct and character of scholars with leniency. Teachers are entitled to the most liberal treatment from the public. Salary of teachers. The highest and best education in a republic is the best in all respects.

1852. Work of the committee. An education to which every citizen of a republic ought to aspire. It is necessary that every one should be thoroughly trained in a knowledge of his mother tongue.

1853. Difficult to make a selection of studies for a high school. English course extended to four years. No electives.

1854. Semi-annual examinations, each of which occupies the committee ten entire days. Character of the schools.

1855. One sentiment animates all who stand in official relations to the educational interests of our city.

1856. In order to teach successfully, teachers must continue to learn.

1857. The true method of teaching history.

1858. A reply to what has been said in regard to "over-tasking" the pupils in our public schools.

1859. Room for a less narrow range, not of study, but of instruction. The vocation of a teacher tends to run easily into routine and acquiescence. The humblest teacher ought to be able to say that he neither narrows his work nor lets his work narrow him. The powers chiefly to be cultivated and developed in children are those of memory, observation, and quickness.

1860. It will not do to begin with a monotonous, unvarying routine, if you wish to stimulate to mental activity. Let order be secured, not through the forced sit-still method, but through the self-forgetful attention which genial and interesting processes of instruction will produce. Costly schoolhouses and yet not adequately furnished. Teacher's vocation second to none other. Text-books are not inclosures within which the minds of scholars are to be penned. Teachers to maintain a diligent watch over manners, speech, and temper.

1861. It is true only in a narrow and technical sense that the teacher is in the place of the parent. The parent can delegate his trust to no other. Moral and religious training are the highest parts of education, and it is the teacher's duty to aid the home training in these respects. The teacher must himself be what he urges upon his pupils.

1862. The school is made by the teacher. It bears his stamp and seal. While the race after novelties will ruin any school, there is no school that will not profit by occasional novelty in the manner and details of the instruction.

1863. College course separated from the high school course.

1864. Is too much work required of the pupils in the high school? Willing to remit a portion of the studies when a physician so advises. The education of a child is of importance enough to be pursued seriously and steadily. Health may be injured as much by exposure to night air and late hours as by evening study.

1865. Methods of education so various and so pressing that it would be of advantage if a general superintendence could be assigned to one man. Duties of such an office.

1866. All the appointments and surroundings of the places where children are to be taught and trained should conduce to cleanliness, cheerfulness and good taste. It is difficult to see that it will cost more to build and equip suitable schoolhouses, than to multiply police stations, and furnish houses of correction.

1867. Whatever tends to render schools more interesting and more valuable to the pupils will so far tend to render the discipline milder. The high school is not called upon to rival a college in the extent of its work.

1868. It is the bounden duty of the school committee to choose the best possible teachers. Mr. Edwin B. Hale elected superintendent of schools. The establishment of a normal or training school department recommended.

1869. A right mental discipline is largely a moral one. A child interested in his work is not a troublesome one. Education and not the passing of examinations is the end of school training. The teacher, hardly less than his pupils, needs the freshening influence of a wider range of topics.

1870. Give the teachers the greatest freedom and hold them to the closest responsibility. The text-book and course of study should neither be imposed nor followed with an iron rigidity. No question relating to the schools of higher importance than that which has to do with the appointment of teachers.

1871. Methods of teaching grammar, geography, and history open to unfavorable criticism. Instruction with reference to the objects with which children are in contact every day is almost wholly omitted.

1872. A steady advance in the way of bringing in thought and casting out routine. Vacation schools needed in which the hours and methods of study should be adapted to the season. Diplomas to be given to the graduates of the grammar schools. The work of education consists chiefly in giving a thirst for knowledge and in teaching the means of gratifying it.

1873. Mr. Edwin B. Hale resigned his office the first of October. A simple enumeration of Mr. Hale's services would be a sufficient argument for the necessity of professional supervision. An ungraded school recommended for pupils whose influence is wholly bad.

SELECTIONS FROM THE SCHOOL REPORTS
1840—1874

The first printed report of the schools of Cambridge in possession of the school department is for the year ending March, 1841, and so far as the superintendent knows this is the first of the printed reports. Annually since that time these reports have been printed and distributed to persons interested in the schools. At the present time, however, many of the earlier reports and a few of those of more recent years cannot easily be obtained.

During the past summer vacation the superintendent read with renewed interest the reports made previous to 1874, the year when he became superintendent of schools. These reports are of historic interest and are rich in educational thought. They are not, however, within the reach of many persons who would be interested in them. The superintendent therefore decided to omit from this report the information usually given in regard to the organization and work of the schools and substitute for it one or more selections from each report from 1840 to 1874.

FROM THE REPORT FOR 1840.

Page 3. The schools are divided by a system of gradation into five classes, viz., alphabet, primary, middle, grammar, and a high school. There is also a school called "The Hopkins Classical School" to which the town is allowed to send nine boys for instruction, and of whose board of trustees the chairman of the selectmen and of the school committee are, *ex officio*, members. The number of children in these schools, exclusive of the Hopkins school, is one thousand three hundred eighty-eight, and the number of teachers is nineteen.

The appropriation of the town last year for "Instruction of Public Schools" was \$6,500. The committee have exceeded this sum in their expenditures by the small amount of \$247, owing chiefly to the establishment of three new schools.

The public schools are superintended by the committee in the following manner. The schools are visited monthly by one of a sub-committee of three, and at the close of alternate quarters by the whole committee, and the other quarterly examinations by the several sub-committees of each ward.

Pages 4, 5. The labors of the committee the past year have been unusually arduous, owing to an increase in the number of schools, and to their endeavors to elevate and perfect our present system of instruction. The duties of this body, if faithfully discharged, are never light. When

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we consider the trust reposed in them by the State, the examination, and in some cases the employment, of all candidates for teachers, the monthly visitation of all the schools, the selection of books for the children, the quarterly examination of each school, the giving counsel to the teachers, and "the general charge and superintendence of all the schools," we cannot fail to perceive that no office in town is more difficult and responsible than this. If the citizens will keep this point always in view, they will place none on this committee but competent men. No greater calamity can befall a town than to suffer this office to be filled either on sectarian or political grounds alone. Intelligence, ability, and moral worth should be regarded as the only qualifications that can fit one for this service.

FROM THE REPORT FOR 1841.

Pages 14 and 15. The duties of the committee have so much increased as to demand, in our opinion, an addition to its number. Beside the labors incident in general to the charge of twenty-three schools, that of making all the visits required by law has become in this town oppressive. During the past year, your committee have made five hundred ten visits to the schools; and this number, they believe, great as it is, still falls below the requirements of the statutes. They suggest either the appointment of a superintendent of the schools, who shall devote his whole time to their demands, and be subject to the general direction and confirmation of some five or seven other individuals, or an enlargement of the committee to nine or eleven.

In conclusion your committee, while they rejoice in the present condition and prospects of the schools, and believe that as literary institutions they are doing much to elevate and perfect our system of education, would recommend an increased attention, both on the part of parents and teachers, to their moral improvement. Time should be allowed a teacher to do all he desires in this respect, no complaint being made because a class does not read or spell its usual lesson, when a case of misdemeanor comes up. Let not the teacher be forced to defer all such cases till the close of the school. What better method could be devised of spending an occasional hour, than the consideration of that which is far more important to our children than mere learning, their moral habits? The mind is pressed forward in our age by new and multiplied processes, in the schoolroom as elsewhere. But the heart meantime is often left in neglect. Respect for parents, deference to the aged, modesty and humility, are in danger of being unknown words with the young. Can we do nothing in our public schools to stay this impending calamity? Shall we, as our children enter the world for themselves, part with them in peace, if while

we have trained them in all grades of schools, we have never sent them to "the school for good manners?" Can the gain of intellectual, compensate for the loss of moral power? Will science render them good citizens, good men and women, if unaccompanied by correct principles, generous affections, and pure habits? If not, then let the schoolroom do its part in more closely uniting what the times would put asunder.

FROM THE REPORT FOR 1842.

Page 11. The committee would call the attention of the town to the subject of establishing school libraries, for the benefit of the older scholars. The legislature has made the liberal offer of paying fifteen dollars to each school district which will raise the same sum themselves for the purchase of a library. We earnestly hope the town of Cambridge will not neglect this favorable opportunity of procuring good books for their children's use. Such works as Sparks's Lives of Washington and Franklin, not to name other books in the wide range of reading embraced in the libraries already published for this object, including history, biography, polite literature, natural history, etc., should be placed within the reach of the young in our schools. They would prove an invaluable substitute for those juvenile romances and those cheap newspaper novels which are now constantly doing mischief among our children. We suggest the expediency of an appropriation of two hundred dollars, by which our high, grammar, and middle schools might be supplied with sets of these libraries.

FROM THE REPORT FOR 1843.

Page 14. A few of the schools excel in reading, while most of them, both in reading and spelling, are lamentably deficient. The latter exercise especially is often performed in such an inattentive and mumbling manner, as proves it to have been greatly neglected. There is an unaccountable reluctance on the part both of teachers and scholars to use the *spelling book*; a book, which, in the days of their fathers, was ever acknowledged "the only sure guide to the English tongue."

For this reason, or some other, we have but very few if any good spellers. The committee are unanimously of opinion, that the attainments in this branch are altogether inferior to what was witnessed in our schools twenty or thirty years ago, in the days of "spelling matches," and "choosing sides," and "taking places," when spelling was generally the most spirited and interesting exercise in school. There may be other modes of learning to spell, besides the "study of columns," but it is believed that there is no other perfect substitute for it. It is sincerely hoped that, hereafter, much more attention will be paid in our schools to *spelling*.

Pages 15, 16. Much depends upon a right selection of teachers. No school can prosper without *good* teachers. A bad tree may as well bring forth good fruit, as a bad teacher make a good school.

A good teacher combines in himself an assemblage of qualities not often found in the same individual. A familiar knowledge of all the required studies, aptness to teach, tact in management, decision mingled with gentleness and suavity, impartial justice, elevated moral sentiments, self-control, patience, energy, pleasure in the employment, a kind and cheerful disposition, and an ability to infuse into the youthful mind an enthusiastic desire of progress in knowledge and goodness. Perhaps there are few, if any teachers, who unite in their own characters all the qualities described. We have some, however, who besides being abundantly competent to fill their station with honor, devote themselves to their work with an almost self-sacrificing assiduity. It is the true policy of the town to give them and all their teachers honorable compensation, and insist upon a high order of services. And if, at any time, there are any who from constitutional infirmity or other causes are manifestly unable to meet the just expectations of their employers, neither they nor their friends ought to take it unkindly, that their places should be supplied by others. All persons are not equally qualified for all duties,—a man may be a good man, but a poor teacher. Better that a single individual should suffer temporary disappointment in the failure of cherished hopes, than that a whole school should lose those golden days which are properly devoted to improvement, and to laying the foundations of usefulness and happiness, and which, once lost, can never be recalled.

FROM THE REPORT FOR 1844.

Page 16. Something should be done immediately for the purification of our schoolhouses, not excepting (we are sorry to add) some of those which have been more recently erected. The committee have no words to express the shame and indignation which the vile disfiguration of these edifices are calculated to excite.

Page 18. There is no one evil which calls more loudly for reform in our schools than inconstancy of attendance on the part of the children. Occasional absences can scarcely be avoided. But when idle boys are seen almost every day, and in every section of the town, loitering about the streets, or playing marbles upon the sidewalks, the conviction is forced upon us that many of these absences, so ruinous to morals as well as to progress in knowledge are neither occasional nor necessary.

Page 22. We would also urge the importance of more attention, in all our schools, to good manners and morals, the principles of piety, and the

principles on which good free institutions are based and sustained. While we never could allow sectarian influences to be exercised, or the politics of party to be inculcated, we do feel that great truths, everywhere acknowledged by the wise and good in this free land, should be incorporated into the education of free citizens and immortal minds.

Page 23. Last year particular notice was taken of a general deficiency in spelling. Some teachers have made earnest and successful efforts to secure improvement in this branch. But the deficiency is still lamentable, though the younger scholars seem to be laying a foundation for future success in it, which many of the older ones in consequence of previous neglect, will probably never attain.

Page 24. Reading is at the very foundation of intellectual acquisitions and accomplishments. Next to moral excellence, good reading is the finest ornament which can grace a school. And there are scholars, and even classes, which perform this exercise in a manner to charm the hearer like music.

The committee are happy to say that the teachers have prosecuted their labors for the most part with great patience, wisdom, and fidelity. Scolding and fretting, angry and reproachful words, are fast giving place to milder and more powerful modes of influence.

Page 25. Your committee beg leave to urge upon all good citizens the importance, which most of them already deeply feel, of generously sustaining the schools; to the selfish, as well as to the philanthropic, we say sustain the schools; public order, freedom, thrift, and security of property, and the comforts of a civilized and Christian community depend upon them. To the benevolent, we say sustain the schools. You cannot confer a greater benefit upon the masses around you than by securing to them a just and thorough education. To the patriotic, we say sustain the schools. It is for you to decide to what sort of population, ignorant or instructed, immoral or virtuous, you will intrust the destinies of this ancient town and your country.

FROM THE REPORT FOR 1845.

Pages 20, 21. There are doubtless advantages in educating masters and misses, towards the close of their common school education, in separate schools. The sexes differ in intellectual as well as in physical constitution; and when this diversity becomes more decided, as it does about the period in question, a different discipline and a different cultivation is unquestionably important to the best development of the true man in the one class, and of the softer but no less noble qualities of the true woman in the other. But these advantages can be secured in a good degree by

an instructor of elevated character, competent to his profession, especially when a female assistant is also employed, without a separation.

But there are good influences also resulting from the education of the two sexes in the same school, which should not be left out of the account.

In a wisely governed school of this description, the manners of the boys are softened and their minds refined, while the girls are placed under that measure of restraint which conduces to self-respect, watchfulness, and dignity of character. Besides, both sexes become acquainted with the good qualities of each other's minds and hearts. The friendships which exist among them are more likely to be founded upon esteem, upon a perception of kindness, of honor, of scholarship, and such like virtues in each other, than when the idea of sex is too carefully kept in view. May not the manifestation of undue solicitude to keep them apart operate, by a natural law of association through the imagination, to strengthen the evil tendencies deplored. Are there any means more likely to degrade the minds and vulgarize the whole character of either sex, than to educate them on principles which exclude all innocent friendships, all mutual regard for the excellences of each other's characters, all pure affections and civilities, and lead them to the thought that there is nothing attractive in each other's society, but just that which is founded on the lowest distinctions of their nature? It seems to us that it is not difficult for a wise and pure-minded instructor to inspire his pupils of both sexes with those high sentiments of propriety; the boys with that sense of honor, that regard for the character of a gentleman, and the obligations of duty; the girls with that delicacy and dignity so natural to the cultivated female spirit; and both with that just appreciation of what is due to their nature, to public sentiment, to the consequences of actions, and to the laws of God, which will not only preserve them from gross immorality but make their intercourse in the same schools like that of brothers and sisters in the same family,—alike purifying and ennobling.

Page 22. Besides, if children cannot be trusted together amid all the restraints and preserving influences of a well-governed school, if they cannot be taught to live together "like brothers and sisters with all purity," in the name of common sense, what is to become of them when thrown out into society?

Let us not be understood as particularly zealous to preserve the mixed character of our schools when circumstances allow a separation. All we mean to say is, that in our opinion it is generally safe, and on many accounts desirable, to educate boys and girls in the same school.

FROM THE REPORT FOR 1846.

Page 67. Let the teachers seek to elevate, purify, and ennoble the characters of the children, by inculcating those principles of Christian morality and piety, in which all are agreed, and which the constitution of the Commonwealth requires to be taught — to inspire their pupils by example and precept with a high sense of honor, with a strict regard to justice, purity, honesty, and truth — with a disposition to aspire after excellence — and with all those good affections which are connected with love to God and love to man. Our teachers are sculptors whose business it is, not to chisel out beautiful forms of stone for the admiration of posterity — but to unfold and fashion immortal minds — to make good children, good brothers and sisters, good men and women, good and useful citizens — to assist in laying the foundations of character, “for the life that now is and for that which is to come.”

Let the teachers maintain always in their schools a kind, paternal, but firm discipline — avoiding all rashness, partiality, and irritating remarks — insisting upon good order, and making the schoolroom a place of healthful enjoyment, as far as possible to every child in the school.

FROM THE REPORT FOR 1847.

Page 28. Though our teachers were doing all that we desire to give the most thorough instruction in the several branches now prescribed, — in the languages, in grammar, geography, history, mathematics, and the natural sciences, — still, if this were all, they would come far short of accomplishing the highest purpose of education, which is the cultivation, not of the intellectual powers, but of the moral and religious capacities and affections. Without the cultivation of this part of the child's nature, which is its peculiar and preëminent endowment, the development of its intellect merely may be not only useless, but worse than useless, and fraught with danger to society. Knowledge without virtue, — intellectual without moral cultivation, — increases the capacity for evil, while the propensity to commit it is subjected to no moral control.

FROM THE REPORT FOR 1848.

Page 67. In regard to the expenditures of the school committee, there is a diversity of opinion among the people which is entitled to respectful consideration. The committee being a part of the tax paying community, have the same motives for an economical expenditure of money as their neighbors; and with them, also, they have only a common interest in providing suitable accommodations for the children, and procuring teachers sufficiently competent in learning, and skilful in impart-

ing instruction, to take charge of the schools. They expect to show that what they have done for these purposes is intended not for an ostentatious display of generosity; not for vain boasting of what they do more than others; but for the well-being of the schools, and for guarding against their degenerating, and falling below the standard to which, by great exertions in past years, they have been raised.

Page 69. There are four examinations of the schools during the year. That which takes place near the close of February is called the annual examination; and the others quarterly examinations. In speaking of examinations, the committee confine themselves in this report chiefly to the annual examinations of the different schools, with occasional reference only to those at other seasons.

In consequence of there being one vacancy in the committee there remained six members without the chairman. Two of them examined the alphabet schools, two the primary, and two the middle. The grammar schools were examined in presence of the whole committee, and to each of the six members was assigned a particular department for examination, and a given portion of time for bringing it to a close. The arrangement was carried out with great exactness. Each examiner confined himself to the allotted time, none of which was lost by delay. Those of the committee who had been members in preceding years were fully agreed in the opinion that no previous examination had been conducted in a manner so satisfactory, not only to themselves, but also to the teachers and the taught; and none they believe with so much benefit to the schools.

FROM THE REPORT FOR 1849.

Pages 86-93. This report contains an interesting account of the high school as organized in the summer of 1848, and speaks in terms of highest commendation of the Cambridge school system. It closes thus: "When we take into consideration, moreover, that our noble University with its professional and scientific schools towers in the midst of us, and that the high school now forms a connecting link between this institution and the lower schools, we cannot but look with admiration upon the educational advantages of Cambridge.

If private munificence would endow one additional school, in which our daughters could obtain advantages for improvement approximating those which our sons enjoy in the University, the opportunities for education would be unquestionably superior in Cambridge to what can be found in any other spot on the globe."

This report was written by William A. Stearns, afterwards President of Amherst College. In Radcliffe College we have the "additional school."

FROM THE REPORT FOR 1850.

Page 75. We must look to our common schools to guard the rising generation against the degradation of the language, which so many concurrent influences seem now to threaten. The attention of the teachers in all the lower grades of the schools should be especially called to this subject. Faults of enunciation can be easily corrected at an age when the organs of speech are flexible. The exercises adapted to this end which are carefully practised in some of the schools, should be required in the alphabet, middle, and primary. Pupils qualified to enter the grammar schools should be free from faults of this kind, so that the time and labor of the grammar masters may be spent on other parts of the study of our language, more suitable to the higher stages of an English education — to the study of style, and the critical examination of the works or passages from the works of our best writers. That the highest classes in our grammar schools are fully capable of mastering these beautiful and most instructive studies was demonstrated during the recent examination. The committee, therefore, hope that the reading and pronunciation of the English language will receive increased attention in all the lower schools, and that the masters of the grammar schools will thus find time for more exercises in the critical examination of entire works or portions of works of those authors who belong to the classical literature of our language; for instance, parts of Spencer's *Fairy Queen*, the *Paradise Lost*, a play of Shakespeare, the poems of Pope, Goldsmith, Bryant, and Longfellow, a good translation of the *Iliad*, or in prose, an oration of Demosthenes or Cicero translated, a discourse of Burke, Webster or Everett. In other words, the suggestion is to introduce among the English scholars of our grammar and high schools a thorough study of our language and some of the best authors that have adorned it, in a method corresponding to that which is followed in the study of the classical languages at school and college.

FROM THE REPORT FOR 1851.

Pages 67, 68. In judging of the conduct and character of scholars, we must always look upon them with leniency, remembering that the highest and best of human beings are full of faults and imperfections, and that it would be visionary to expect of children that uniform excellence which none of their elders succeed in attaining. We must remember, too, that they are still in the weakness of their reason while their passions are strong; that few of them are under the wisest guidance at home; that parents seldom come up to the standard of perfect duty in

training their children in the way they should go, while many set before them bad examples of unprincipled conduct, profane conversation, and brutal manners. Some children come to school from homes where the influences are good; others, where they are indifferent; others, where they are almost wholly evil. All these considerations ought to temper the severity of our judgment, whenever the unpromising conduct of boys and girls at school tempts us to despair of final success. These considerations should also increase our sympathy for the teachers, who have all these obstacles to contend against, and heighten our appreciation of the value of their services, when their labors are crowned by the moral and intellectual growth of their pupils.

Pages 69, 70. The position of teachers is peculiar, and surrounded with difficulties. They are entitled to the most liberal treatment from the public in every respect. The office is all-important in its relation to the future, and ought to receive a degree of respect corresponding to its dignity from the present. Teachers who are animated by the right spirit, renounce the common objects of ambition and pride; they withdraw from those careers which lead to wealth and political distinction. They remove themselves even from those sources of emolument by which salaried officials, in business relations, generally have an opportunity to increase their pecuniary means. In fixing the salaries of persons so placed this view is most important. The income of a permanent teacher should enable him to live with decency: to share in the social life and the hospitalities of the community to which he belongs, according to the average standard of the society he moves in; to educate his children respectably and to provide a shelter and sustenance for old age, which comes to all, but to him sooner than to most other men. He is entitled to a salary which will meet all these exigencies; and if he does not receive it, his life will be loaded with painful anxieties, and his usefulness greatly impaired. There is no doubt, that however low the salaries are reduced, men will be found who will accept them. But to employ a vulgar, ill-educated, incompetent person, to take charge of our children's education, because he can be hired cheap, is the worst kind of prodigality of which we can be guilty. We do not save by it the money which we refrain from spending, but we squander, in a most profligate manner, every cent that we pay; and to the dead loss of just so much capital, we add the infinitely greater loss of all the time our children remain under the care of such a teacher; we throw away the precious and irrevocable hours of their childhood and youth; we leave their high faculties to run to waste under ruinous and unskillful culture; and let them form bad intellectual habits, and acquire shallow or erroneous views, which will go with them through the longest life. Surely there is no wastefulness so mischievous and wicked as this.

Pages 72, 73. The highest and the best education in a republic like ours, is the best in all respects. The very term republic points our view from private to public interests; from the narrow circle to the wide range of the largest political community. Our wealth is in the mines of intellect that lie hidden in the popular body, and not in the gold and silver and iron, even though the national domain stretch over vast continents that rest on golden foundations. To make this wealth available to its highest minds we must labor without ceasing, not only to extend some education to all, which is the narrow view of many so-called practical men, but to place the best education within the reach of those who can turn it to the best account.

No man can tell to what destiny his son may have been born; to bound the ideas of popular education by so much knowledge as may make a man competent to discharge the ordinary duties of life without disgrace, and to regard all higher education as a superfluous luxury, so far from being democratic, is to recognize the fundamental principle of the most odious aristocracy, namely, a distinction of classes, — one class condemned to toil and drudgery, irrespective of natural ability, and another born to enjoy, in addition to common luxuries of wealth, the greater luxury of scholarship, art, and polished education. And yet many of those who assume to be the peculiar and exclusive friends of the people, take in effect precisely this aristocratic ground. The principle of our fathers was, that the property of the State should educate the intellect of the State; and they used the term education in the widest signification known in their day.

Pages 74, 75, 76. Our public education should be, not specific, but general, aiming at a just and equable development of the intellectual powers, and so enabling each to assume the place in the community which he is best adapted to hold. The son of the poor man, even under the imperfection of our present system, becomes the wealthy capitalist; the country boy rises to a leading position in a great city; the farmer's son grows up into an eminent lawyer, and perhaps becomes the President of the United States; the son of the humble mechanic proves to be the great discoverer in science, and fills the world with his fame. And it is clear to a demonstration, that the wealth and the power and the true civilization of a republican State will be the greater, in proportion to the facility with which the diversified talents of its children find their appropriate spheres of activity; and a system of public education is truly republican just in proportion as it brings the means of securing the best possible education within the reach of all who are qualified to benefit by it. It is the general culture of the mind which brings to light intellectual aptitudes. Without this, the attempt to mark out the future careers of our

children is no better than arbitrary decision or vague guess work. God has written upon the minds of every one of his children his own will; he has traced with the creative finger of omnipotence the lines and proportions of the intellectual constitution; general education is the fire which brings out and makes legible these invisible signatures of the Almighty.

Who, then, can doubt that the true policy of a republic is to extend the opportunities of the highest possible education farther and farther, until they reach every child in the State, until all the talents in the State find their natural level and their congenial spheres? The more a man's powers are unfolded, the better will he be fitted for his special occupation or profession, when he finds out what nature means that to be. The details of business, the methods of transacting this or that class of affairs, can be readily and rapidly mastered by a young man of good general education in the early stages of his business or professional career; but if the proper period for general education be prematurely occupied with special preparations, he will find it difficult afterwards to acquire that versatile power and mental culture, which can alone give him the highest advantages in any career he may have chosen.

FROM THE REPORT FOR 1852.

Page 73. Taken as a whole, the history of the Cambridge schools during the year has been one of singular prosperity. The large body of teachers in schools of every grade, have performed their duties zealously, ably, and faithfully, laboring as in their great task master's eye. The committee, while endeavoring to exercise the supervising powers practically and effectively, have at the same time done their best to strengthen the hands of the teachers in their arduous and exhausting toils, and to co-operate with them, so far as possible, in making their schools instrumental towards accomplishing the high purposes for which they were established. They have visited the schools often, attending the various exercises, and encouraging the pupils to work vigorously in their studies. They have often consulted with the teachers, and availed themselves of the light of their experience in devising means to promote the interests of education. They have given much time and labor to the semi-annual examinations and have endeavored, to the best of their ability, to render justice to the pupils and teachers on these occasions and to call the attention of the parents and friends of the scholars to what the public authorities are doing for their benefit, and to remind them of their duties in return. And they have been unceasing in their endeavors to show that the proper business of education is to train up immortal beings, not only to do the practical business to which circumstances, inclination, or taste

ly call them, but to fulfill the duties of citizens in a community of equals, under a sense of responsibility to the country and to God; that while the work of trade and profession must be faithfully performed there is a moral nature and an intellectual power above and beyond trades and professions, the exaltation of which is the true end of education, as well as of the whole discipline of man's life on earth. The *man* is above the mechanic, the merchant, or the lawyer; and the dignity of the nature God has given must not be kept out of sight by the peculiar stamp that social institutions or practical life have impressed upon him. A general education, to which every citizen of a republic ought to aspire, may be described in general terms, as embracing reading and writing the mother tongue; the relations of number and quantity; a knowledge of the world we live in, and of its relations to the rest of the system to which it belongs; general history of the world, and special history of our own country and its institutions; the cultivation of taste or the sense of the beautiful in nature, literature, and art; a knowledge of duty towards man and towards God. The faculties of the body and of the mind are capable of increase as well as development by exercise. The studies of the school must train the latter; and it would be very desirable that some system of physical exercise were connected with scholastic studies, to uphold and strengthen the former.

Page 76. In a system of general education, it is not necessary that a child should be required to study the ancient, or the modern foreign languages; but it is necessary that every one should be thoroughly trained in knowledge of his mother tongue, and of its chief literary treasures. It is our good fortune that we inherit the English language, along with the principles of constitutional liberty of which it has been in modern times the principal organ. The poetical literature embodied in it is rich beyond example since the days of classical Greece. From Chaucer down to Scott, a series of the most wonderful works of imagination produced by the genius of man since the revival of letters, has adorned its successive stages of development. It is the only modern language, in which parliamentary and judicial eloquence have found fitting and uninterrupted expression; it is the only language now spoken on earth, in which, as Mr. Thackeray justly remarked, the accents of liberty are at present allowed to find an utterance. The very terms in which the fundamental ideas of freedom are clothed have been settled by the usage of the English language and by no other. If then, we train our children up in the nurture of this noble tongue, we train them up to the best and fittest culture for intelligent citizens of a constitutional republic; we open to them the most splendid treasures of the intellect; we place within their reach the noblest products of the understanding and the imagination of man. The

committee have not hesitated, in co-operation with the teachers, to give this department of study the utmost extension compatible with a due regard to other necessary and important branches.

FROM THE REPORT FOR 1853.

Pages 103, 104. It is a comparatively easy matter to decide what studies shall be pursued in a grammar or primary school; but in a high school, so many different branches claim our attention that it is difficult to make a selection. Still, a selection must be made, and many important subjects must necessarily be omitted. The course pursued in this school has been modified from time to time, and such changes have been made in it as experience has proved to be expedient. During the past year, it became evident that, according to the existing arrangements, more work was required than could be thoroughly performed; and the alternative presented itself, either of diminishing the number of branches or of extending the time. The latter plan seemed the better one, and accordingly the English course has been extended to four years and the classical to five. The advantages resulting from this change are twofold:—1. It has enabled the committee to dispense entirely with the elective element, and to prescribe a uniform course of study for the whole school. It was found here, as it has been found elsewhere, that when scholars are allowed to choose what branches they will pursue, their choice is very apt to be the result of accident or of caprice, and thus the classification of the school becomes complicated, without any corresponding benefit to the scholars themselves. 2. More time is allowed for a portion of the studies, and on this account the instruction can be rendered more comprehensive and thorough. So far as can be judged from the short experience we have already had, this change will be productive of good; the additional year required will be found, it is thought, to be time well spent.

But in order to secure the full benefits of the school, the course of study prescribed must be rigidly adhered to and prosecuted to its completion. Scholars often desire to give up a study because it is distasteful to them, or because they cannot perceive that any practical good will result from its pursuit. But it should ever be borne in mind, that the object of education is not merely to impart knowledge, but also to exercise and discipline the mental faculties. The difference between a well-educated and an ill-educated person consists not so much in their acquisitions as in their capabilities. The advantages derived from the mere study of a language or a science may be as great, to say the least, as those which result from an actual knowledge of that language or science. Moreover, in every well-digested system of study, the different branches

are to a certain degree dependent on each other; and though a young beginner may not in all cases be able to perceive the relation which exists between them, still this relation is none the less real. The committee have, therefore, never consented to the omission by any pupil of any of the prescribed studies but with extreme reluctance; and then only in cases where from ill-health, or some other good reason, the necessity of so doing was obvious.

FROM THE REPORT FOR 1854.

Pages 81, 82, 83. The general reputation of the schools of Cambridge has been very high for several years; we believe it has never stood higher, and has never been more fully deserved, than during the last summer and autumn. The school system is an extensive and somewhat intricate one, requiring much labor and watchfulness on the part of those who have the direction of it, in order to preserve its efficiency, and to keep up the harmonious action of all its members. We have thirty-seven schools, divided into five ranks or grades, which are known respectively as the alphabet, the primary, the middle, the grammar schools, and the high school. The committee have endeavored to divide their attention equally among these different grades, as they see that the prosperity of each is dependent upon the one immediately below it, and is a necessary element in the success of the one next above it on the scale. Besides the usual monthly visits that are required by law for each school, semi-annual public examinations are held, each of which occupies the committee ten entire days. On these occasions the high school and each of the grammar schools is examined by the whole Board, while the lower schools are examined by sub-committees, each consisting of two or three members. The work is so distributed that every member of the committee has occasion to examine schools of every grade, and in all the wards, so that after a short time, he becomes acquainted with every school and every teacher in the city. These examinations are not matters of mere form; nearly the whole work of propounding the questions, examining the written exercises, and testing the proficiency of the pupils in every department, being performed directly by the examiners, the ordinary teachers standing by as mere spectators. Not infrequently we hear an alphabet class laboriously spelling monosyllables one day, and the next week we are required to examine high school classes in the Latin, Greek, and French languages, in advanced mathematics, and in the elements of nearly all the sciences; and we regard the two tasks as equally important and equally necessary to carry out with efficiency a system of public instruction.

It is on the intimate acquaintance thus acquired with all our schools, that we base the opinion already expressed of their high character, and of

the thoroughness and excellence of the work that is done in them. If there are any among our fellow-citizens who have doubts on the subject, or who complain of the heavy expense of the system, we would invite them to follow the committee in one of these semi-annual reviews, and then judge for themselves. Let them remember that it is in these schools that more than three thousand children are now receiving nearly all the intellectual culture which they will ever obtain from any other source than the stern experience of life. In these schools influences are exerted, second in importance only to those of the family fireside and the Bible, to mould the characters and the destinies of the coming generation, to train up the men and women, the fathers and mothers, who are to take our parts and fill our places when our own earthly work is finished, or is left incomplete behind us. These three thousand children represent at least fifteen hundred families in our community, to all of whom the nature and degree of the school instruction which their sons and daughters are receiving are matters of the liveliest interest. Is there any other municipal concern, any subject which claims the attention of our civic government, that equals the public school system in magnitude and importance? Shall the money which is needed to keep up this system be more avariciously counted, and more sparingly doled out, than that which is spent upon fire engines and street lamps, police and paupers, roads and bridges, or any of the hundred other objects which drain the city treasury?

FROM THE REPORT FOR 1855.

Page 80. The committee take pleasure in noting the fact that the present municipal authorities have promptly granted the appropriations asked for the schools for the current year, and have cheerfully co-operated with us in meeting every exigency which has arisen. One sentiment has seemed to animate all who stand in any official relation to the educational interests of our city. No one is known to us who would willingly consent to such withholding of supplies as would tend in any degree to lower the standard of excellence which our schools have already reached or make less effective the facilities which we possess for educating the children of this ancient town. We have not yet reached a point of extravagance which affords any good reason for remonstrance or alarm. The ratio of cost per scholar for instruction is not higher in Cambridge than in other towns and cities in the county and the Commonwealth. In 1853 Cambridge stood *sixteenth* in the State in respect to the amount appropriated for the instruction of each child in the city between the ages of five and sixteen; and in the county of Middlesex, for the same year, our city stood *seventh*; and in 1854, *fifth*.

FROM THE REPORT FOR 1856.

Page 97. Teachers are subject to certain additional expenses which grow out of the very nature of their employment, and cannot be avoided by those who are ambitious to excel in it. In order to teach successfully, they must continue to learn. Books must be purchased; conventions and institutes must be attended, with some outlay at least for travelling expenses; and special tuition must be obtained in some departments, such as drawing, elocution, music, the projections of maps, and the French and Latin languages, in which their own elementary training has either been deficient or needs to be renovated and kept up by continued study and practice. Education is by no means finished at school, and those especially who adopt the teacher's profession must constantly devote a portion of their leisure to reading and study, or they will soon find themselves falling behind the times. The committee place the more stress upon this point because they fear its importance is sometimes lost sight of by those who have been long in the business, and with whom teaching is in danger of degenerating into a mere mechanical routine.

FROM THE REPORT FOR 1857.

Page 9. To teach history, not well but at all, is to get a lodgment for its facts in the brain by converting them into the child's own thoughts, by intertwining them with his associations, and engraving them upon his imagination. A true teacher of history has first to know what he would teach; has to catch the spirit of an era, not to stop with the letter of a manual; has to feel the life, not merely remember the dates of a period; then, every important event will be brought out distinctly to his class, every person of note will pass over the stage as a reality, every contemporary biography will be eagerly laid under contribution, every geographical allusion will be so traced out that Jamestown cannot possibly be mistaken for Plymouth. The manual will be the starting point, not as now the goal of the pupil's excursion, a nucleus around which his own quickened thoughts crystallize, not a lump of clay to be pressed down upon his own busy brain.

FROM THE REPORT FOR 1858.

Pages 124, 125. Much has been said in the public prints and in private circles, the past two or three years, in regard to "over-taxing" the pupils in our public schools. As this is a subject of the greatest importance to the health and prosperity of the rising generation, we propose to discuss the subject, and see if it is true of the public schools of

By the school regulations of our city, a child is required to be five years of age before he can enter the public school. At this age unless he can read, he enters the alphabet school, where he is taught reading and spelling, and is usually two years in passing through this grade. He enters the primary at seven where reading and spelling are continued, and the addition and subtraction, multiplication, and division tables are to be learned, and here again two years are passed making the child nine when he enters the middle school. In this grade reading and spelling are continued; geography, writing and defining commenced, and Colburn's Mental Arithmetic is required as far as section twelve. Here two years more are spent making the pupil eleven when he enters the grammar school. In this school mental arithmetic is dropped and written arithmetic taken instead, and continued in Chase's as far as involution, just far enough to carry on the ordinary business of life; descriptive and mathematical (not physical) geography is finished, grammar and composition are studied, the history of the United States as far as the close of the Revolutionary War, and reading, spelling and writing are continued. In this grade three years and a half more are occupied, making the pupil fourteen years and six months old when he applies for admission to the high school.

The questions for admission to the high school for this year were given in this report, seventy per cent of correct answers being required.

FROM THE REPORT FOR 1859.

Pages 140, 141. We are inclined to think, and this we say with hope and not with complaining, that here and there in our schools there is room for a less narrow range, not of study but of instruction. The studies are numerous enough (perhaps too numerous) and far enough advanced. But the mode of teaching is not always as *rousing* as it might become. We know the great difficulties to be fought against. The schools must receive a large number of ignorant children, whose parents have not had the ability or perhaps the will to impart to them that home training which is the corner stone of all other training. They come to the schools dull, backward and with no other industrious habits. To these children the street is often more attractive than the home or the school, and what is got at school is soon crowded out of the thoughts. It seems as if no friction or blistering could raise any active glow in such minds. The case is hard, we admit; but the more sluggish the circulation, the greater the need of the stimulus; while there is life there is hope. A stout and strenuous spirit will brace itself all the more cheerfully up, when real difficulties challenge its utmost power. Every child knows something. Small as that may be, it is possible to work on it and with it. If push

ing will not do, draw, coax, entice. Once start an interest, and a foothold is got. The peculiar traits of childhood may be taken advantage of and pressed into the service. The main lever to move the young is curiosity. The teacher who brings every day to his schoolroom something of his own, who stores up whatever of amusing and portable information falls in his way and works it into his daily business, has the best chance for success in the hardest cases, and indeed in all cases.

Among the powers chiefly to be cultivated and developed in children, are those of memory, observation, and quickness. The classes that make society stagnant, unthrifty, and backward, are the forgetful, the heedless, and the slow. To save the community from a crop of these useless or noxious weeds is a primary object in education, even the earliest school education. The vocation of a teacher tends to run easily into routine and acquiescence. He needs to be on his guard against himself, lest he should get into a groove. It was said in praise of the famous John Selden, that "his learning did not live in a lane." So the humblest teacher ought to be able to say that he neither narrows his work, nor lets his work narrow him. If he would fill a child's mind, his own mind must be pretty well filled too. He must be ever on the alert to outstrip himself. One success should be the stepping stone to another. And this in a steady, even way; without nervous anxiety and without consuming toil. Some of his best work should be in his play; for this will keep him fresh and bright, and so keep the door open to the hearts of his pupils. An active and advancing mind is his greatest treasure; and this is more often the reward of cheerful, moderate, and wholesome zeal than of feverish scruples.

Pages 143, 144, 145, 146, 147. In all the schools it should be an object of thought and care to introduce, as opportunity offers, specific and frequent memoriter exercises beyond the regular school book lessons, or as a substitute for a part of them. They should be and can be such as the young will be interested in. The poetical extracts in the reading books may furnish something, and the children may be encouraged to select for their teachers' approval pieces from their own stock at home. This will bring into play the last Christmas or New Year's gift, and teach the little owners to use it, not as a toy to be thrown by after the novelty is over, but as a permanent treasury. As the scholar rises in the schools, these exercises may be made more frequent and more difficult; till in the high school they reach their fullest development. Every pupil who enters that school should have been already trained to this kind of work. While he is there, he will be able to commit to memory and repeat with expression some of the choicest and purest passages in ancient and modern poetry. He will go out into life furnished with an abundant source of pleasant and refreshing thought and an abiding defence against the weariness of watching hours and

the depression of sickness or thickening cares. Such a training will, indeed, like all other teaching, be more or less stimulating or more or less mechanical according to the intelligence and zeal of the teacher. It may be reduced to a hum-drum sing-song, or be used with the aid of apt hints and skilful questions as a means to convey and to educe a great deal of wholesome knowledge and more wholesome activity.

The second topic mentioned above was the habit of observation. This stands to education both as cause and effect. Without a little of it nothing can be learned; without much of it little will come of what has been learned. Many children, especially in our larger towns, are singularly listless and inert in this respect. They do not see with their eyes and hear with their ears. To quicken and establish the habit of observation ought to be an immediate and definite aim with every teacher. Even in the alphabet schools much may be done; for the youngest are not always the least observing. What is there to hinder the teacher from giving now and then to his little friends a simple talk about some familiar object; say, a leaf, a fruit, a toy, a house, or the like; stopping every few minutes to catechize the young listeners on what has just been said, and leading them by well put questions to make their own contributions? The next day, while yesterday's lesson is still warm, the subject may be resumed, and the children questioned again. Suppose that a picture of an animal were shown. One scholar might give its name; another, tell its color; a third, mention some other trait within the range of a child's perceptions. Thus, little by little, a pretty good description might be built up out of the materials furnished by the scholars; and they would have what to young folks is always a great pleasure, the satisfaction of having told what they know as from themselves. Some one might now be called on to tell the whole story. It would be a premium on attention and intelligence to be called on to do this; and it would be done with eagerness. Next, the teacher might go beyond the experience of his pupils, and point out the instinct and habits of the animal; its food, its enemies, its use to man, and so on; bringing in at the right place an appropriate anecdote, or getting them to learn a bit of verse bearing on the same thing. All this implies no surrender of the regular book teaching. It could be added to it, and it would add to it. It would increase the faculty of learning anything that needs to be learned.

As you go up in the schools, these lessons may be enlarged, till in the grammar schools the children may be directed to bring up a *written* report of the whole exercise. When history is taught the teacher can read from other than the text-books, and require similar written reports. By exercises of this character, much may be done to open and sharpen the mind's eye. They will seize not only on the observing, but on those

who have the faculty of observing without any regular habits; those who jump great distances, but walk very badly. It may be added, that oral teaching, with abundance of illustration and active interchange of question and answer, is one of the best methods of imparting the moral instruction required by our rules.

And now, a hurried word as to the third point—quickness. The methods above suggested, if rational and feasible, as we believe they are, would not only sharpen, but (so to speak) whip up the minds of the pupils; so that they should work, not only more knowingly, but more rapidly. But special lessons might be contrived to this end of spurring the faculties. After a parsing lesson, for instance, let one or more impromptu sentences be dictated by the teacher, be written down at once on the board and then without further preparation, be parsed by some of the class. Or a number of words may be given out to be written on the board, and the class required to work them into a connected sentence by supplying other words. Or a rapid string of questions may be put to a class in geography, to be answered *instanter* with the map open and in full view; an exercise, by the way, perhaps too much neglected in some quarters. Children need to be practised in *finding* places quickly. Other expedients of the sort may be invented to keep the mind of the pupil on the spring. The various experience of different teachers and the diverse circumstances of different schools, will suggest suitable contrivances to meet the occasions for them.

If these views are sound, we look to a further advantage in their adoption. The most trying and depressing feature of a teacher's life is the necessity of constantly repeating his round of toil. He is perpetually in fear that he will not escape the rust and moss that collect in the path of routine. The slow wear of monotony tends to blunt the edge of the keenest faculties; whereas, whatever gives the mind now and then a good airing will bring it into fresher sympathy with the minds it has to act upon. Live and lively teaching is the best teaching. The art to inspire is the chief talent in the case. And very little trouble of mind or strain of toil is needed. The tone and play of mind are the main thing. A nature kept always clear and fresh will do wonders with the humblest machinery. Everything that comes to hand is transfigured by the energy of intelligence into an instrument of knowledge. A common wood cut, a simple landscape, a fireside story, a dying leaf, a starting bud, the feather of a bird, the fall of a snow-flake, all the wayside facts, all changes in the world of nature, are riches in the inventory of a quick-minded and clear-eyed instructor. We believe that a habit of cultivating these little but constantly recurring means of life, will make the vocation itself not only more productive; but vastly less burdensome and more invigorating.

FROM THE REPORT FOR 1860.

Page 103. In no respect is the difference between a child's mind and that of an adult more striking, than the contrast between a child's love of change and variety and the power of concentration in the adult. It is a long way from one to the other and the end must be reached by slow and gentle gradations. It will not do to begin with a monotonous, unvarying routine, if you wish to stimulate to mental activity. Such a system will make dullards instead of bright, quick minds. This roving habit of mind in the child is not pernicious at that age. It is nature's way to get acquainted with the world in which it is placed, by exciting its wonder and curiosity at every step. In every plan for educating children should we not, therefore, begin as nature begins, by allowing greater scope to this natural love of variety, detaining the mind only long enough on each object to fix some new idea?

There must be system, and there must be order; a school that is lacking in either of these is a failure at the start. But let the essence of the system centre, not in monotonous sameness, but in ever fresh variety; and let order be secured, not through the forced, sit-still method, but through the self-forgetful attention which genial and interesting processes of instruction will produce.

Page 110. We take occasion to express our surprise at the singular inconsistencies that prevail in regard to the facilities for education in public schools. There is a laudable and ever growing emulation to have schoolhouses so stately and ornamental as to be commanding objects in the landscape, and impress the passing stranger with the public spirit and noble principles of our communities. And yet there seems to be an almost utter absence of solicitude whether they be adequately furnished with those helps and conveniences, without which all the costly brick and mortar and wood-work go for comparatively nothing. What a singularity, indeed, to say no more, that many thousands of dollars should be proudly and freely lavished on a building solely for school purposes, and only a few hundreds be afterward doled out towards the supply of facilities for the proper fulfilment of those purposes.

Pages 131, 132. In conclusion we would sum up in a few words to our teachers the suggestions that spring out of our intense consciousness of their opportunities and responsibilities.

We consider your vocation second to none other upon earth. A school teacher, who is faithfully working up to an ideal commensurate with the possibilities of the immortal beings he labors with, has none that enjoy greater scope for loftiest influence, and should be held, therefore, in loftiest honor. See to it, then, that the grooved and channelled routine of your la-

bors does not narrow you down to a cold, perfunctory performance of them. See to it that you maintain your faculties on the alert, steadily picking up what fresh information you can from books or otherwise, and keeping abreast of the age, so that you can draw unceasing supplies from your intellectual stores, to illustrate the studies of your classes, and ply them with suggestive stimuli. Remember well that text-books are not inclosures within which the minds of your scholars are to be penned, but guide-boards to point out what manifold reaches of road are before them for their assiduous travel; and that, in another's phrase, "a child should be taught two things every day, both to know his book and to forget it." Maintain a diligent watch over your manners, so that your refined and chastened demeanor shall be a constant lesson, forceful though silent, in the proprieties of decorous behavior; over your speech, so that its purity and correctness shall illustrate the eloquence of a true usage of our mother tongue; over your temper, so that your discipline shall owe more to the moral power of your self-possessed manhood and womanhood than to the terrors of your frown or your rod. And above all, seek fervently from the right source, to be so inspired with the supreme and eternal realities of existence, that your whole being shall gravitate ceaselessly towards the noblest issues of life. Then your unconscious tuition, exemplifying the true relations of culture and subordinating intellect to soul, shall hallow your conscious labors, and your scholars be persuaded to purify for eternity what is first to be devoted to mankind.

FROM THE REPORT FOR 1861.

Pages 114, 115, 116. It is true only in a narrow and technical sense that the teacher is in the place of the parent. For all that makes character, as well as for all the amenities of manners, the home is the school ordained of God, and the parent can delegate his trust to no other. When this has been neglected, the school may indeed offer some check to the development of bad tendencies, but it will not be a permanent one. There is no natural affection to enforce the appeal, no sacred charm, such as invests the thought of home, to stimulate to strong endeavor. Where centres a child's love is the best atmosphere for the tender growth of the moral sentiments. From the lips that God has made seem almost infallible to the child's apprehension, will best come the precepts that are to guide his life. In all that respects moral and religious culture, therefore, the school must be secondary and auxiliary to the home; and how easy and delightful the teacher's task where respect and trust have become habitual, obedience a second nature, and all the home-bred virtues of well-trained childhood shining in the features and manners, give surest evidence of parental

care and wisdom. The child who has been thus carefully nurtured at home is an acquisition to any school, for unconsciously he is the teacher's best ally. It is an example confirming precept.

But has the school, has the teacher no responsibility for the *moral culture* of his pupils? Are his duties exhausted with text-book instruction? I think that while he will consider it the chief *object* of the school to give instruction in the various branches of study, he ought also to remember that moral and religious culture are the higher parts of education, and that though the home is their appropriate school, it is his duty to aid the home training in these respects with all the means in his power. What appliances can he use? In the first place, the intellectual discipline is in itself an aid to moral culture; for the moral and intellectual parts of our nature are so intimately connected, thoughts and sentiments are so combined, that the growth of one must affect the other. Besides, there are often opportunities furnished by the lessons of the day to suggest a useful moral; as the character and conduct of some person in history, a passage in an author studied, or a single word charged with moral meaning. A class will listen much more readily to familiar talk excited in such a way, than to any formal discourse. But the latter may be well employed on suitable occasions, as when some serious misdemeanor has been brought to the notice of the whole school, or when some important rule has to be enforced, or when some unusual event breaks the ordinary course of school life. The teacher can readily pass from the particular occasion which has excited remark to a wider application.

But by far the most powerful means which a teacher, or any one else who wishes to influence others can use, is example. Without it precept is powerless. The teacher must himself be what he urges upon his pupil. How unfortunate for him and his charge, if his careless conduct, or hasty speech, or prejudice, or lack of sympathy with youthful feeling, turn the edge of all his counsels and make them of no effect.

The theory of our public schools does not include much in the way of direct religious instruction. But some influence they must have, either religious or the reverse. Not merely on the ground of justice to the parents, but also on moral grounds connected with the child's character, I believe that the faith of a child in the religious ideas in which he has been educated, should never be weakened or suspicion thrown upon them. However useful free inquiry, self-prompted and honest, may be to him when he comes to maturity, in childhood at least, any loosening of religious opinions by others would be in the highest degree dangerous; for the morality of a child is so directly built on his religious belief, that any shock given to the one would surely injure the other. Hence I think the religious bias given at home should not be interfered with at school or

anywhere else. But the religious *spirit* developed at home may certainly be fostered at school. The first, best lessons of religion, reverence and love, may be impressed upon the heart; not so much by direct instruction as by general influences, tending to awaken whatever there may be of natural susceptibility to such impressions. As plants depend for half their lives on unseen elements in the air, so in the moral atmosphere invisible and subtle agencies are ever at work to elevate or debase. Here are needed the sharpest observation and the finest analysis. He who can command the elements of this atmosphere, though he seem not to utter a word, will most successfully teach the great lessons of religion and all the finer graces of a virtuous character.

FROM THE REPORT FOR 1862.

Page 16. With due allowance for the material he works on, the school is made by the teacher. It bears his stamp and seal. The committee may scheme and plan, but the schoolmaster alone can make what is really of any value in their schemes and plans take root. We know how much the best efforts of the best teachers are limited by the necessary routine of each day, and the close pressure of large and numerous classes on their time. But we are glad to see that they are able to bear up against these obstacles, and to break in some degree the level of their work. One or more of the masters are interesting themselves in the etymology of words, as throwing light on their meaning; another presses upon us the necessity of more definite attention to articulation. While the race after novelties will ruin any school, there is no school that will not profit by occasional novelty in the manner and details of the instruction. It may be worth while now and then to get a spark by cutting off the regular flow of the current. A quick, piercing, unexpected question will sometimes startle a boy into thinking, who would otherwise comfortably drowse over a lesson which he had (as he supposed) sufficiently learned, and had filed away in a dark pigeon-hole of his memory.

FROM THE REPORT FOR 1863.

Pages 4, 5. During the year a plan was digested and adopted by which the college course is separated from the high school course, except in those particulars in which the studies of both are necessarily coincident. Whatever may be the general opinion, now or hereafter, as to the judiciousness of the plan of study laid down in the high school course, it can no longer be said that it is made subordinate to the college course. It embraces no more than, in the opinion of the committee, it is desirable

for all children to study whose worldly circumstances permit them to remain at school the necessary time. Some will object to Latin and French, some will object to the physical sciences. Some will say that girls need to be "prepared for domestic life," and some that boys should be "prepared for business." Fortunately the greater part of our people are capable of understanding that a high cultivation of the mind and taste, and a moderate acquaintance with science, history, and the two most useful foreign languages, do eminently fit men and women to perform their part in life, "justly, skilfully, and magnanimously," and with more pleasure and advantage to themselves and to the world.

Considerable trouble is occasioned to the high school committee and teachers, by frequent applications for an excuse from some part of the prescribed course. When such applications have been grounded on health so feeble or delicate as to require indulgence, a remission has been granted, though not without a physician's certificate to the necessity. But such reasons as a want of taste for a particular branch, or its inutility in that line of life which a pupil expects to follow, can never be admitted; because nothing is put into the course which requires a peculiar taste, and because the preparation for life at which we aim is a general and not a special one.

FROM THE REPORT FOR 1864.

Pages 12, 13. An opinion prevails somewhat extensively that too much work is required of the pupils in the high school, and there is also an impression that the amount of work required is now greater than it used to be. With respect to this last point we can say decidedly that, so far from more being required now than formerly, the contrary is true; that the tasks imposed are not only less, but very considerably less. The question remains, however, whether too much is not still required; and it is therefore necessary that we should state distinctly how much study we exact, and how much we find to be given.

The pupils of the high school spend in school, during the first five days of the week, two hours and a half in recitation, and one hour and three quarters in study. They are expected to study two hours each of these five days out of school, excepting the boys of the higher college classes, who may it is judged, safely be required to study as much as three. Two hours of study is all that can be required of girls, who do not take as much active exercise as boys, and have also domestic occupations which boys have not. We may fairly demand, however, that these two hours shall be faithfully spent, away from distractions, and with real concentration of the mind. This rule is made for the average of the girls, and assumes the possession of an average amount both of health and of mental capacity. There are pupils in the school who are not up to the average in

either respect. We are willing to remit a portion of the studies in every case when a physician so advises, and have actually excused one-sixth of the three upper classes from one of the three daily lessons. In so doing we do not, as has been said, practically confess that our rule is too hard. The rule is made for the majority, and it is not strange that so large a number as the sixth we excuse should be in the minority as to health or strength.

These are our general views and principles, to which we have nothing to add, except that we recognize with all rational people such truisms as the paramount importance of health, and that it is wise to be on the safe side and to be satisfied with too little rather than run the risk of demanding too much. But we think, while admitting and proclaiming these obvious maxims, that there are one or two others which it may be well to join with them. The intellectual education of a child is of importance enough to be pursued seriously and steadily. It is not of *less* consequence than amusement, but is a child's principal business. Health cannot be preserved without bodily exercise, and the habits of a child in respect to exercise are not much under the control of the schoolmaster. Health may be injured as much by exposure to the night air, and by late hours at parties and consequent insufficient sleep, as by evening study, and injury received through indulgence in pleasure is often set down to the account of school tasks.

FROM THE REPORT FOR 1865.

Pages 7, 8. Our schools are now so numerous and require so much attention, the unsettled questions pertaining to methods of education are so various and so pressing, that it would be of great advantage if a general superintendence could be assigned to one competent man. The duties of such an officer would be to study the public school system, both of America and of foreign countries, and suggest improvements in our own; to obtain a personal knowledge of the condition of all our public schools, with a view to bringing all of them as nearly as may be to an equal standard of efficiency; to advise the teachers and the school committee on the best methods of instruction and discipline; to contrive means for bringing under instruction that large number of children which, in a place populated to a considerable degree by foreigners, will always seek to evade it, or be deprived of it by their ignorant parents; and to consult with the proper agents of the city government as to the building and bettering of schoolhouses, and the methods of best securing the health and comfort of pupils and teachers. Such an officer, supposing him to be possessed of the requisite qualifications, would undoubtedly be of very great use. School committees, granting them to be always constituted of the best materials,

are constantly changing. If a man who is busily occupied undertakes to do all that he can to be useful, he commonly finds the labor too much for him, and (supposing him not to be dropped by his fellow citizens) soon retires. The fair performance of only the routine duties of the place demands in Cambridge the devotion of a great deal of time. This time should be and is most cheerfully given, but a great deal more time would be required of him who would thoroughly master the subjects with which he has to deal,—in fact all his time. We think, therefore, that we cannot better make up for the deficiencies of which we are conscious ourselves than by recommending to our successors to consider at once the expediency of establishing the office of superintendent of public schools.

FROM THE REPORT FOR 1866.

Page 8. All the appointments and surroundings of the places where children are to be taught and trained should conduce to cleanliness, cheerfulness, and good taste. These things are not only important as a means of bodily soundness; they are also necessary to a healthful tone of mind and good morals.

Page 9. It is a fact grounded in the laws of our mental constitution, and well supported by experience, that external surroundings have a very intimate relation to the aptitudes of the mind and the tone of the feelings; and there is no period of life so susceptible to these external influences as that of childhood.

There is no expenditure provided for by the public treasury so remunerative as that demanded for the support and proper furnishing of our public schools. There is no public interest, material, social, or moral, that is not directly promoted by their efficiency and success. Property becomes not only more secure, but more valuable, in proportion as their resources are developed. Life is richer and more rounded in those communities which make largest and most ample provision for their wholesome accommodation. And, in any event, it is difficult to see that it will cost more to build and equip suitable schoolhouses, than to multiply police stations, and furnish houses of correction. A community that refuses to make a generous outlay for the culture and training of children, will be forced to draw on what it has thus unwisely withheld to create and sustain almshouses and prisons. If it will not strenuously endeavor to develop the better qualities of the rising generation, it will be compelled in the end to put forth its strength in the vain attempt to suppress the violent manifestation of the worse. We are persuaded that this form of public economy will prove ruinous waste in the long run,—waste, not of our material substance alone, but of the intellectual and moral life of our people.

FROM THE REPORT FOR 1867.

Page 17. Your committee have seen with pleasure, even in the primary schools, a laudable disposition on the part of many teachers to interest their children in the study of the wonders and beauties of outward nature, and to give them simple and intelligible instruction in regard to the phenomena of the world in which they live,—instruction which the natural curiosity of children renders interesting at the very earliest age, and which is of the utmost possible value in training the senses, and opening the mind to the reception of higher truths at a later stage of development. Your committee recommend that this tendency towards giving a living interest to the instruction in the primary and grammar schools be encouraged, by promoting what is called “object-teaching,” by giving facilities for the forming of small museums, and by the introduction of simple and inexpensive physical apparatus. Whatever tends to render these schools more interesting and more valuable to the pupils, will so far tend to render the discipline milder.

Page 18. Careful regard should at all times be had, in arranging our public school course, to the future destination and future wants of the pupils. The high school is not called upon to rival a college in the extent of its work. It should rather be its ambition to carry out a plain, practical, and thorough training; such as shall, on the one hand, prepare young men and young women with just the kind and amount of knowledge that they will find useful on their entrance into life, while it implants in them a taste for intellectual pursuits, which will inspire them to carry on their own education after school life is over; and, on the other, shall furnish a firm and solid foundation to those who pass on to the higher institutions of learning.

FROM THE REPORT FOR 1868.

Page 12. The laws of the Commonwealth expressly authorize the school committee to “dismiss from employment any teacher whenever they think proper;” but it has not been usual to exercise this power at any other period than that of the annual election, except for specific and grave reasons. If dismissed before the expiration of the year for which he or she was elected, the teacher would have a moral though not a legal right to ask that good cause should be shown for a seemingly harsh procedure. But it is the bounden duty of the school committee to choose the best possible teacher; and they are guilty of a dereliction of duty if they appoint one of inferior merit, solely on the ground that he or she has held the office, though probably unworthy of it, during the previous year. Nothing would be so injurious to the schools as the right of any feeble or indolent

teacher to cling to his position like a barnacle to a ship's hull, because he unluckily once found a place there, though he has never been anything but an impediment to the ship's motion.

The best efforts of any incumbent can be secured only by the possibility, and even the probability, of being displaced just as soon as his efficiency is diminished. We cannot tolerate merely negative merit; not to do harm is not enough; he must do good. And the right of displacement must not rust by disuse; it must be freely, though never wantonly exercised.

At the meeting of the school committee April 1, 1868, Mr. Edwin B. Hale was elected superintendent of schools. He entered upon his duties May 14. The following is from his first annual report:

Pages 26, 27, 28. In accepting the office of superintendent of public schools, I was not ignorant of the arduous duties, and peculiar difficulties connected with it. I did not forget that the office itself was with you an experiment, tried with many misgivings, doubtless, even on the part of those whose votes established it. I supposed that many, regardless of the merits or demerits of the incumbent, might expect at once manifest and important results. It occurred to me that some might look for the early introduction of plans of educational reform — of methods and systems before unknown, but which would spring into existence as the natural result of the establishment of the office. If any have entertained views such as I have described, they have had, or will have, ample opportunity to correct them.

For myself I made no such mistake. I was aware of the fact that many who have given to Cambridge its high literary renown, have from time to time, been connected with the school board; while many others, known for their professional success or for their prominence in business circles, have also aided in moulding the present school system. It may well be supposed then, that I am called to this work to carry out that which you have inaugurated, rather than with the hope that I am to devise new plans, or introduce immediate reforms. Here, however, I would not be misunderstood. I trust we shall all be watchful lest the rapid strides with which the cause of education is advancing shall leave us far behind. It is no time to be satisfied with the present. The busy thought of the leading educators of the day, moulded into a form available to all who are willing to be learners — the improvements in school buildings, school furniture, the classification of pupils and methods of teaching, all demand of us earnest effort.

From an observation of a few months, I am prepared to say, that for ability, and for fidelity to the great trusts committed to their care, the

teachers of Cambridge will compare favorably with those of the other cities and towns in this vicinity. It were folly to assert that all are equally worthy and successful; such a statement would be true of those of no profession nor occupation. What I do assert is, that in each of the grades, a large proportion of all are well suited by nature, by education, and by experience, for the work they have undertaken.

Wherever in the selection of these teachers great care has been exercised, it is certainly worthy of imitation by all having the responsibility of appointments hereafter. Incompetence in those employed in other occupations may, perhaps, be pardoned, since frequently no higher interest is involved than that of dollars and cents; but who shall estimate the loss to a community, when its children are instructed by those possessing neither the general ability, the tact, the force of character, the elements of moral strength, nor the quick sympathy with childhood which distinguishes the superior teacher?

In view of the importance of obtaining teachers of experience joined with the desire we must all feel to aid those educated among us, would it not be well at no distant day, to establish a normal or training department, where the graduates of our high school desiring to teach, might in a measure prepare themselves for their work?

FROM THE REPORT FOR 1869.

Pages 17, 18, 19. Next to the moral discipline of our schools, there is no question of more importance than that of the studies pursued in them. In fact the questions of mental and moral discipline are in great measure one. A right mental discipline is largely a good moral one. The difficulties of the latter will, many of them, disappear with a right treatment of the former. Not only will a natural method of mental training be healthful and stimulating to the intellectual faculties, but it will help to keep the temper happy and sweet. Disgust and weariness with monotonous drill is the parent of much restlessness, negligence, and mischief. A child interested in its work is not a troublesome one, and that school will least task its teacher's patience where the daily work is suited to the natural capacities and wants of its pupils.

It should be understood that a plan of study is not intended to act as a restraint upon a teacher. It says "thus far" only in a given direction. It merely indicates the least that should be done.

A natural scheme of education will make its basis as broad as possible. A child is by nature and necessity a lover of all knowledge. He is placed in a strange and wonderful world, and his first need is to make himself acquainted with the common objects around him. To see

and learn to call by name is his first task. Classification and comparison, the study of laws and sciences, come as late in the history of the individual as in that of the race. "Facts, with little reasoning," should be the motto for the first half of a course of education; "reasoning upon facts," for its last part. Selection of special objects of study belongs, too, late in the stage of development. Not till facts are gathered from all branches of knowledge, can the mind show any natural bent or a wise selection be made.

In the early stages of education, including the primary and grammar schools, the elementary facts of all branches of knowledge ought to be taught. The only selection admissible is that of the near in preference to the remote. Things visible and immediate must first be known and named. The statement that oxygen and hydrogen combine to form water has little meaning to a child, because the elements are abstractions; but anything about the transformations of vapor, dew, frost, rain, snow, and ice interests him for he sees some of them every day. Sensible objects and their pictures are the chief food of a child's mind; perception and imagination, the chief faculties to be addressed.

Nor should the studies of one grade be regarded merely as a stepping stone to those of another. The plan for each should be made suitable to the wants of each. The studies of the grammar school should not be merely what are necessary for admission to the high school, nor those of the primary merely the requirements for entering the grammar school. Each should be complete as far as it goes. Education, and not the passing of examinations, is the end of school training. Any system which fails to meet the wants of each age and keeps artificial ends in view, will not only deprive the great majority of children of the chance of gaining important knowledge, but will fail to stimulate healthy enthusiasm.

Page 22. The teacher, also, hardly less than his pupils, needs the freshening influence of a wider range of topics upon which to communicate with them. His narrow book routine is stifling. He needs constant contact with nature and real objects to counteract its poison, and to bring him into closer sympathy with the minds of his pupils.

Page 39. The following is from the report of the superintendent of schools:—

We still have in all our grammar schools the antiquated system of large rooms; while, as heretofore, nearly all our primary schools are organized on the same general plan and are ungraded. It is mortifying to be obliged to chronicle such a fact but truth compels it. Had this system any advocates, or even any apologists, it might be well to notice some of the evils which attend it; but this is not now necessary, since all who are conversant with school matters are ready to condemn it most

unqualifiedly. I make the statement most unhesitatingly, that as regards the instruction or discipline of our schools, the plan of large rooms is wrong in principle and disastrous in results. If now this view be correct, if the present system be recognized as wrong, why should we not commence at once to apply the remedy by changing it for a better one? The city of Cambridge expends annually, merely for instruction in its public schools, nearly \$100,000; this is a large sum, and the labor which costs so much should be so employed that the best possible results shall be secured. This is true economy, anything else is wasteful expenditure.

Page 44. With each added year there seems to be a growing interest felt in the important facts connected with our schools, and hence judiciously prepared tables of statistics, if not of general interest, are yet carefully examined by those especially interested in the welfare of the schools. We should have a system of records that shall preserve all items of importance and those of importance only. We ought to be able at any time to obtain all essential facts or figures, or anything relating to the real history of the schools.

Page 47. In the month of September last I recommended the establishment of a training school. The suggestion met with your approval, and a committee was appointed to take the subject into consideration. In October that committee submitted a report strongly recommending the establishment of such a school, and also detailing the plan proposed for its organization. This plan met with the hearty approval of the Board, and a committee was appointed to carry it into execution. Arrangements are now nearly perfected; teachers have been appointed, and the month of February has been fixed upon as the time for opening the school.

FROM THE REPORT FOR 1870.

Pages 13, 14. The power that moves a school is not so much the far away law of the State nor of the committee, but the nearer and more direct force of personal influence. The larger and freer and better the personality can be made which reigns in the schoolroom the better. The theory we advocate would be to give the teachers the greatest freedom, and to hold them to the closest responsibility. Teachers are placed in their chair to rule and teach the scholars. That responsibility is theirs alone, and not divided with the sub-committee in charge of the school. The office of the committee is not that of sustaining the order and discipline of the rooms, but the higher one of inspection, supervision, regulation, and of disciplinary interference only in extreme cases. It is to be presumed that the teachers are competent persons, and the school system should put the class into their care, with as little restriction as possible, and hold them responsible for success.

And so with regard to the method of instruction; the "text-book" and the "course" should neither be imposed nor followed with an iron rigidity. The teacher should have resources of his own. He should continually freshen his exercises with original work of his own introduction. It is not the text-book that is to be taught, but the study.

Page 24. The following is from the report of the superintendent of schools:—

I can conceive of no question relating to the schools of higher practical importance than that which has to do with the appointment of instructors. There is no other possible way in which the schools of this city can be so directly and so materially improved as by seeing to it that none but efficient teachers are appointed to the vacancies that may occur. It is of infinitely more moment that we have good teachers than that our text-books be admirably adapted to the purposes for which they were designed, that our schoolhouses be commodious and elegant, or that our school legislation be wise and judicious.

Page 34. Teachers begin to appreciate the fact that oral teaching—oral lessons and illustrations—must have a prominent place in connection with every recitation, whether it be reading, the "tables," or other branches. I am sure that I am correct in claiming that there is less hearing of lessons, and more real instruction than ever before.

Page 36. Another subject was introduced, which was indicated by adding to the rules and regulations the following:—"The composing and writing of sentences shall be begun with the lowest class, and continued as a frequent exercise through the course."

This is a step in the right direction. The design is to enable the child, through the instruction and practice which will now be given, to express neatly and correctly any simple idea he may have in his mind.

FROM THE REPORT FOR 1871.

Page 3. It is hardly possible to overestimate the benefit that has resulted from the alterations in the structure of some of our schoolhouses, by the division of large halls into rooms of the size proper to accommodate the classes of a single teacher.

Page 4. The present system as to corporal punishment is believed by some members of the committee to be in every respect judicious. The resort to force is so carefully guarded, and is held to so strict a responsibility, that it can only be a last resort; while there are cases in which all other means fail, and the alternative is the dismissal of the pupil to vagrancy and ultimate ruin. It is urged, in behalf of this system, that all government must and should rest upon force, but with so many intermediate springs that it should be brought into play only in

stress of need. That this necessity can become very rare, is already demonstrated in our schools, in which probably the number of instances of bodily chastisement, during the last year, was considerable less than the number of teachers, perhaps even less than the number of schools.

Pages 15, 16, 17. Grammar is taught to very little purpose to children who know no language but their own. The proprieties of speech and writing are never learned by the study of grammar in school. The habit of correct speaking is best acquired by association with persons who use language with accuracy and elegance, and where this cannot be, conversance with good books is the only remaining resource. Reading an entertaining and well written volume of two hundred duodecimo pages, would teach a child more of practical grammar than he would acquire in six years' study of a text-book.

The departments of geography and history lie equally open to unfavorable criticism. Names and dates that are sure to be forgotten it is useless to learn. In history the details of obscure and non-decisive battles, the succession of insignificant dynasties, the mere lists of rulers or statesmen of whose character and influence nothing definite is given; in geography, names of places with which the scholar will never have any association whatever, — are of no more worth than old school or college catalogues. If it be a tonic for the memory that is needed, these last would answer fully as well, and would cost less. We would, indeed, have these branches deprived of none of their importance in our schools. On the other hand, we deem them of the very highest magnitude and interest. But we would have history studied in the great march of events, — in the revolutions and the progress of intellect, civilization and culture; in the establishment, growth, and decline of the world's great religions; in the lives and influence of illustrious and typical men. And as for geography, we would lay prime stress on the astronomical and physical relations, laws, divisions, and phenomena of our planet, and would have intimately associated with them the names, sites, and peculiarities of empires, kingdoms and states, of all important towns and cities, and of all regions of earth and bodies of water with which the pupil can by the remotest probability be brought into connection in reading, or travelling, or business.

While there is a great deal of time wasted in our schools, and while much is studied that need not be studied, instruction with reference to the objects with which children are in contact every day, and all their days, is almost wholly omitted. In a few of the primary schools, especially in those which have been recruited from the training school, some simple object-lessons are given, and in our grammar schools there are teachers who avail themselves of every possible opportunity to impart simi-

lar instruction. But it is not contemplated in our system, except very inadequately in the high school course, to furnish any definite teaching about common things and the surrounding world. This is too large a subject to discuss at the close of a report already longer than usual. We would merely suggest that, if precious time can be saved by shortening the process of learning to read, and by omitting useless branches, there is a whole world — full of objects adapted to awaken and feed curiosity, and demanding not a life time, but almost an eternity, to know them well — into the knowledge of which we now hardly begin to initiate the children under our charge, but in which they can be made learners only to their highest benefit and their enduring happiness.

Page 25. The following is from the report of the superintendent of schools : —

And here I desire to say that the favored opportunities for conferring the greatest possible benefit upon the schools in any community are the occasions when teachers are to be appointed to fill existing vacancies; for we do, after all, always come back to the idea that the school will be just what the teacher makes it.

Page 35. I believe in the general excellence of our grammar schools. I think I see most evident signs of progress in the character of the instruction. For myself, I believe in thoroughness, and thoroughness which comes from a reasonable amount of hard, patient drilling. And yet I have endeavored by every means in my power, by the character of my examinations, by suggestions, by private conversations, by remarks in meetings of teachers which I have held; in these, and in other ways, I have endeavored, so far as possible, to eliminate from the instruction useless technicalities and meaningless rote-work. I think something has been accomplished. I like to feel that the instruction is better than ever before,— broader, more practical, more intelligent. In the use of text-books there is now less to complain of than formerly. We aim to make text-books “servants, not masters.”

FROM THE REPORT FOR 1872.

Page 5. From the high school to the primary schools there has been a steady advance in the way of bringing in thought and casting out mere routine. More attention is given to the culture of the scholar's mind through his senses. There is less confinement to the study of books and to recitations from memory. The teacher is more true to the name, and is less a hearer of recitations. Books on natural science are in all the schools. Drawing is taught in all. Variety is given to the reading by supplementing the common readers with other books or with newspapers,

at there may be more interest in this fundamental exercise, and that the pupils may learn to read at sight.

Page 6. Our system seems to need vacation schools, which should be under other than our regular teachers, and in which the hours and methods of study should be adapted to the season.

It is a cause of great regret that only a small portion of the children who enter the grammar schools finish the course in them. To encourage longer continuance in school, the committee have decided to give a diploma to those scholars who shall complete the course of the grammar school, and whose conduct shall have been satisfactory during the last year.

The following is from the report of the superintendent of schools : —

Page 24. Much is now required of a teacher of a primary school. She should be able to control easily, winning obedience rather than enforcing it; she should understand the laws both of the physical and mental growth of the child, that she may do no violence to the one or the other. She should be able to make the schoolroom attractive, that the pupil may not, as often happens, acquire a dislike for school which years cannot remove. Let the teacher, as far as possible, study the special nature of each child, that she may adapt her methods to his peculiar wants; for our school systems are necessarily hard and inflexible, and this could be neutralized by the excellence of the instruction which each pupil shall receive. Let the teacher strive to create in the child a love for learning; for the work of education consists chiefly in giving a thirst for knowledge, and in teaching the means of gratifying it. It is still too often forgotten that we are chiefly indebted to correct habits of observation for many acquirements we have made; but such is the case, and hence the importance of cultivating the perceptive faculties. All the knowledge of material things must come through the senses; and long before the child enters the schoolroom his education in this direction begins. In the acquisition of language, too, he makes wonderful progress in the few years of his life previous to entering school, but not unfrequently when he becomes a pupil his growth in this direction is dwarfed and stunted by the unskilfulness of those in whose care it is his misfortune to be placed. In this subject of *language*, it is universally conceded that great weakness exists throughout all the grades of our schools.

With the design of giving some aid in this direction, so far as regards the primary schools, that most excellent juvenile magazine "The Nursery" has been placed in every schoolroom. It is expected that it will be found a valuable acquisition.

Pages 28, 29. Every day more is demanded of teachers in the way of intelligent teaching; and the intelligent teaching of our time seems to

be characterized particularly by one happy symptom — the tendency to simplify the beginnings of natural science so that little children may have some real knowledge of, at least, plants and animals, which are the familiar representatives of natural science to them. But it is only the student of science who can properly simplify it, and therefore the importance of a systematic study of zoölogy and botany — so far as they may be unfamiliar — by those intending to be teachers.

That it may not be left to the inexperience of teachers to discover, with labor to themselves, and with injury to their pupils, the laws which govern mind and body, the subjects of intellectual science and physiology are included in the course of study for the training school. The development of the mental powers in the average child is so sure to be in certain chronological order that the facts might almost be tabulated for a teacher's daily guidance. A knowledge of these is of the highest importance to success in teaching. Many a lesson is a failure from the simple fact that the teacher has overestimated the reasoning faculty in the child, has miscalculated his power of abstraction, or has undervalued the hold upon him of things actually seen, touched, tasted, or heard.

FROM THE REPORT FOR 1873.

Page 5. Mr. Edwin B. Hale, superintendent of public schools, resigned his office the first of October. The committee were fortunately able to secure the benefit of a part of his time until the first of January, 1874. Mr. Hale was elected superintendent and began his work here early in the year 1868, soon after the city council, acting upon their own responsibility and not upon a request of the school committee, had wisely established this office.

A resolution was entered upon the records of the committee, expressing our sense of the great value of services rendered. The words of this record need not be repeated here. There is not one of the many improvements in our school buildings, not one of the changes in our remodelled courses of grammar and primary school work that has not been the better done by reason of his assistance. It is not too much to say that several of our best reforms would not even yet have been accomplished, if we had not had his constant supervision, great practical acquaintance with the best methods of teaching, and prudent regard for the burdens as well as the resources of the city. A simple enumeration of Mr. Hale's services would be a sufficient argument for the necessity of professional supervision.

The following is from Mr. Hale's last report: —

Page 19. The readiest means of improving the schools is found in selecting good teachers; and no surer way of injuring them has been dis-

vered than by placing the children in the hands of those who lack the portant qualifications of a wise and judicious instructor.

Page 20. I can only express the hope that those having the schools charge will not undervalue the importance of selecting only those who are qualified for the important work of moulding the minds and characters of the children of this city. Neither residence, personal needs, nor influential friends will supply the lack of actual fitness; although it is not always easy to convince either applicants or their friends of the truth of this statement. My own position in the matter of appointments has been to regard our own graduates as preferred candidates, and first of all, to urge their claims faithfully so far as I could satisfy myself that they were worthy of the positions which they sought, and no farther.

Page 22. There is a subject connected with this which I deem worthy of the attention of the next Board. There are in the different sections of the city a certain number of children of school age who are truants, and are not guilty of offences for which they should be sent to any penal institution; and yet, because of their defiance of authority and for other causes, they are frequently suspended from school. Is it not an important question how far the interests of the mass of pupils could be allowed to suffer through the fault of the few who accomplish almost nothing for themselves, but whose influence is wholly bad upon the school of which they are nominal members? The question I propose is this: Is it expedient to organize one or more ungraded schools in which a class of children shall be taught, and which they shall be required to attend, instead of allowing them to divide their time, as now, between the school and the street, with positive harm both to themselves and to the school which is unfortunate enough to claim them as members? It may be found that there would be practical difficulties in carrying out a plan of this kind, but I believe the subject is at least worthy of consideration.

Page 24. In closing this my last report to your Board, I cannot forbear expressing my appreciation of the kindness and consideration which I have at all times received at your hands. It is worthy of remembrance and of record, that during a period of nearly six years no single incident occurred tending in the slightest degree to mar the harmony which has at all times existed.

FROM THE REPORT FOR 1874.

Page 3. Within the past year, upon the application of the school committee of Cambridge, the legislature has authorized the school committees of the State to appoint superintendents of schools and to fix their salaries. Availing themselves of this permission, the committee have acted to the office named, Mr. Francis Cogswell, formerly master of the Methuen grammar school.

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Mr. Nagle, 1885-3.

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- | | |
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| Mr. Williston | 1878-4; 1881-3, 35. |
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| Miss Burnham | 1879-40. |
| Miss Tarbell | 1880-11, 28; 1882-10. |
| Miss Winnett, Mr. Mansfield | 1881-34. |
| Mr. Magoun | 1881-34; 1902-78. |
| Miss Peirce, Mr. Mansfield | 1886-4. |
| Mr. Lincoln | 1890-20; 1896-30. |
| Miss Ireson | 1892-193. |
| Mr. Hill | 1893-26; 1903-33. |
| Miss Elizabeth E. Dallinger | 1893-49. |
| Miss Butler | 1894-44. |
| Miss Downing, Miss Webb, Miss Fessenden | 1896-30. |
| Miss Davis | 1896-49. |
| Miss Emily C. Dallinger | 1897-57. |
| Miss Jewell, Mrs. Dennis | 1898-44. |
| Mr. Roberts | 1898-45; 1899-30. |
| Miss Spare, Miss Hutchison, Miss Emerson | 1899-30. |
| Miss Kate Wellington | 1900-55. |
| Mr. Barrell | 1901-76; 1903-38. |
| Mrs. Taylor, Miss Amelia Wright, Miss Laura Wright | 1901-67. |
| Mrs. Mirick, Miss Stewart, Miss Carpenter, Miss Whoriskey | 1902-78. |
| Miss Ada H. Wellington | 1902-78. |

Mrs. Rogers, Miss Dickman 1903-38.

Miss Barbey, Miss Brown, Miss Stiles
and Miss Emma A. Taylor resigned
in 1903 after long and faithful service.

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Respectfully submitted,

FRANCIS COGSWELL,

Superintendent of Public Schools.

IN SCHOOL COMMITTEE, February 18, 1904.

Ordered, That the report of the superintendent as read and outlined him be accepted and adopted as the annual report of the school committee for 1903, and that the secretary be authorized to append the names of the members of the committee thereto.

SANFORD B. HUBBARD,
Secretary.

Members of the School Committee for 1903

JOHN H. H. McNAMEE, *Chairman ex officio.*

ALFRED P. ADAMS.	WILLIAM TAGGARD PIPER.
GEORGE W. BICKNELL.	J. HENRY RUSSELL.
ROLYN P. CHASE.	ARTHUR P. STONE.
WILLIAM M. FITZSIMONS.	CHARLES H. THURSTON.
WILLIAM N. GAGE.	ROBERT WALKER.
HERMAN R. LANCASTER.	JAMES FRANK WENTWORTH.
FRY E. MITCHELL.	CHARLES H. WILLIAMS.
CHARLES F. WYMAN.	

MEMBERS OF THE SCHOOL COMMITTEE AND THE YEARS DURING WHICH THEY SERVED, 1840-1904, (INCLUSIVE).

- Abbott, Edward,—1868, 1869.
 Adams, Warren P.,—1903, 1904.
 Agassiz, Alexander,—1871.
 Albee, Sumner,—1878, 1879, 1880.
 Albro, John A.,—1845, 1846, 1847, 1848, 1849, 1855, 1856.
 Alger, Alpheus B.,—1891,* 1892.*
 Allen, Charles H.,—1852.
 Allen, Frank A.,—1877.*
 Allison, George A.,—1888, 1889, 1890, 1891.
 Ammidon, Philip R.,—1870, 1871, 1872, 1873, 1874, 1875, 1876.
 Anable, Courtland W.,—1865, 1866.
 Appleton, John,—1867, 1868.
 Apsey, William S.,—1871, 1873, 1874, 1875, 1876.
 Atkinson, William P.,—1867.
 Austin, Daniel,—1846.
 Averill, Alexander M.,—1859.
 Badger, Henry C.,—1866.
 Ball, Joseph A.,—1880, 1890, 1891.
 Bancroft, William A.,—1893,* 1894,* 1895,* 1896.*
 Barnes, Albert M.,—1882, 1883, 1884, 1885, 1886, 1887, 1888, 1889, 1890, 1891.†
 Bicknell, George W.,—1897, 1898, 1899, 1900, 1901, 1902, 1903, 1904.
 Bolles, Elizabeth Q.,—1895, 1896, 1897, 1898, 1899.
 Bowen, Francis,—1850, 1851, 1853, 1854, 1856, 1857, 1868, 1869.
 Bradford, Isaac,—1873,* 1874,* 1875,* 1876.*
 Bradlee, Caleb D.,—1858, 1860.
 Briggs, George W.,—1870.
 Brine, George R.,—1876, 1877, 1878, 1879.
 Brooks, Elbridge G.,—1841, 1842, 1843, 1844.
 Brown, Otis S.,—1879, 1880, 1881.
 Buckingham, Joseph T.,—1841, 1842, 1843, 1844.
 Carruthers, William,—1863, 1864.
 Chamberlain, Frank C.,—1896, 1897, 1898.
 Chamberlain, Henry M.,—1858.
 Champlin, Edgar R.,—1899,* 1900.*
 Chaplin, Winfield S.,—1890, 1891.
 Chase, Carolyn P.,—1892, 1893, 1894, 1895, 1896, 1897, 1898, 1899, 1900, 1901, 1902, 1903, 1904.
 Chase, Edwin B.,—1866, 1867, 1868, 1869.
 Child, Francis J.,—1863, 1864, 1865, 1868.
 Church, Moses D.,—1884, 1885, 1886, 1887, 1888.
 Clancy, William H.,—1892, 1893, 1894, 1895, 1896, 1897.
 Clarke, Moses,—1848, 1849, 1850, 1851, 1852, 1853, 1854, 1856, 1857, 1858, 1859, 1862.
 Coburn, Ellen M.,—1896, 1897, 1898.
 Coburn, George A.,—1873, 1874, 1878, 1879, 1880.
 Cogswell, Edward R.,—1869, 1870, 1871, 1872, 1873, 1874, 1875, 1876, 1877, 1878, 1879.
 Conlan, Felix,—1887, 1888, 1889.
 Conlan, John,—1882, 1883, 1884.
 Cooke, Edward,—1862, 1863.
 Coolidge, Austin J.,—1865, 1872.
 Corcoran, Michael,—1884.
 Cox, James,—1870, 1871.
 Cushing, George A.,—1845.
 Daly, Augustine J.,—1904.*
 Dickinson, David T.,—1901.*
 Dow, James A.,—1874, 1875, 1876.
 Doyle, William E.,—1884.
 Draper, Martin, Jr.,—1867, 1868.
 Edgerly, Caroline L.,—1889, 1890, 1891, 1894, 1895, 1896, 1897, 1898, 1899, 1900, 1901, 1902.
 Edwards, Abraham,—1854.*
 Ely, Robert E.,—1899, 1900.
 Emerton, Ephraim,—1886, 1887.
 Fairbairn, Carrie S.,—1899, 1900.
 Fairbanks, John W.,—1885, 1886, 1887.
 Felton, Cornelius C.,—1849, 1850, 1851, 1852, 1853.
 Finnigan, Patrick J.,—1885, 1886, 1887, 1888.
 Fiske, John,—1869.

- ons, Philip M.,—1899, 1900, 1902, 1903.
- Francis,—1883, 1884, 1885.
- ames A.,—1881,* 1882,* 1883,* *
- ft, Francis A.,—1870, 1871.
- ft, Frank,—1877, 1878.
- Robert O.,—1891, 1892, 1893, 1895, 1896, 1897, 1898, 1899, 1901.
- eth N.,—1898, 1899, 1900, 1901, 1904.
- Henry H.,—1889,* 1890.*
- h, Massena,—1851.
- n, Ellen A.,—1891, 1892, 1893, 1895.
- n, Frank,—1881.
- n, William W.,—1867, 1868.
- , James D.,—1840, 1843, 1846,* * 1853,* 1860,* 1861.*
- L. B.,—1842.
- dwin B.,—1874, 1875, 1876, 1877.
- ranklin,—1859, 1860.
- Edward H.,—1885, 1886, 1887, 1889, 1890, 1891.
- ames H.,—1867, 1876, 1877, 1878, 1880, 1881.
- ames, M. W.,—1880.*
- nd, John W.,—1867, 1868, 1869,
- Paul H.,—1902.
- g, Hamlin R.,—1868, 1869, 1870,* *
- gton, Henry F.,—1860, 1861.
- Albert Bushnell,—1891, 1892, 1894, 1895, 1896.
- w, William,—1843.
- , William A.,—1872.
- h, John L.,—1875, 1876, 1877, 1882, 1883, 1884, 1885, 1886, 1888, 1889, 1890.
- ey, Henry,—1872, 1873, 1874, 1876, 1877, 1878.
- l, Frederick W.,—1856, 1857.
- , Anson,—1840, 1841, 1842.
- , Anson P.,—1861, 1871, 1872,
- , Nicholas,—1843, 1844.
- , Zelotes,—1850, 1851, 1852, 1854.
- Houghton, Henry O.,—1859, 1860, 1861, 1862, 1863, 1868, 1869, 1872.*
- Howe, U. Tracy,—1861, 1862, 1863.
- Hubbard, Sanford B.,(Secretary),—1888, 1889, 1890, 1891, 1892, 1893, 1894, 1895, 1896, 1897, 1898, 1899, 1900, 1901, 1902, 1903, 1904.
- Hunt, Freeman,—1884, 1885, 1886, 1887.
- Jacobs, Sarah S.,—1880, 1881, 1882, 1883, 1884, 1885, 1886, 1887.
- Johnson, George P.,—1891, 1892, 1893, 1894, 1895, 1896, 1897, 1898.
- Karr, William S.,—1873, 1874, 1875.
- Kelley, Amasa S.,—1858, 1864.
- Kelley, Joseph J.,—1898, 1899.
- Kendall, Phebe M.,—1880, 1881, 1882, 1883, 1884, 1885, 1886, 1887, 1888, 1889, 1890, 1891, 1892, 1893, 1894.
- Keith, Owen S.,—1840.
- Kern, Francis V. B.,—1892.
- Kingsley, Chester W.,—1860.
- Kronan, Edward J.,—1904.
- Ladd, John S.,—1844, 1845, 1846, 1847, 1849.
- Lancaster, Sherman R.,—1901, 1902, 1903, 1904.
- Lansing, Jenny H. S.,—1897, 1898.
- Leavitt, George R.,—1871, 1872, 1873, 1874, 1875, 1876, 1877.
- Leverett, William,—1844, 1845, 1846.
- Lew, James A.,—1904.
- Livermore, George,—1847, 1848.
- Livermore, George W.,—1840, 1841.
- Livermore, John,—1843, 1844, 1845, 1871.
- Longfellow, Alice M.,—1887, 1888, 1889, 1890.
- Loomis, Grove H.,—1868, 1869, 1870.
- Malley, Edward B.,—1881, 1882, 1883, 1884, 1885, 1886, 1891, 1892, 1893, 1894, 1895, 1896, 1897, 1898, 1899, 1900, 1901, 1902.
- Mandell, William J.,—1901, 1902.
- Marsters, John M.,—1859.
- Mason, Sumner R.,—1862, 1863, 1864, 1865, 1866, 1869, 1870, 1871.
- McCurdy, C. L.,—1855.
- McDaniel, Samuel W.,—1873, 1874, 1875.
- McDuffie, John,—1860, 1861.
- McIntire, Charles J.,—1870, 1871, 1872.

- McKelleget, Richard J.,—1888, 1889, 1890.
- McKenzie, Alexander,—1869, 1870, 1871, 1872, 1873, 1874, 1881.
- McNamee, John H. H.,—1902,* 1903.*
- McNeill, George E.,—1873, 1874, 1875.
- Mears, David O.,—1869.
- Mellen, W. R. G.,—1847, 1848.
- Merrill, James C.,—1858, 1859, 1860.
- Merrill, J. Warren,—1865,* 1866.*
- Metcalf, Charles R.,—1842, 1843.
- Mighill, Nathaniel,—1866, 1867.
- Miner, George H.,—1869, 1870, 1871, 1872, 1873.
- Mitchell, Mary E.,—1893, 1894, 1895, 1896, 1899, 1900, 1901, 1902, 1903, 1904.
- Montague, Samuel L.,—1878,* 1879.*
- Morse, Asa P.,—1868, 1869, 1876, 1877, 1878, 1879, 1880, 1881, 1882, 1883, 1884, 1887, 1888, 1889, 1890, 1891, 1892.
- Morse, James R.,—1854, 1855, 1856, 1857, 1858, 1860, 1861, 1862, 1865, 1866, 1867, 1868, 1869.
- Munroe, William A.,—1869, 1870, 1871, 1872, 1873, 1877, 1878, 1879, 1892, 1893, 1894, 1895, 1896.
- Murdock, John N.,—1866.
- Muzzey, Artemas B.,—1840, 1841, 1842, 1850, 1851, 1853.
- Muzzey, Henry W.,—1864, 1865, 1866.
- Nagle, Garrett A.,—1884, 1885.
- Newell, William,—1844.
- Norris, Albert L.,—1874, 1875, 1876, 1877.
- Norton, Charles E.,—1855.
- O'Brien, John,—1875, 1876, 1877, 1878, 1879, 1880, 1881, 1882.
- Orcutt, William H.,—1877, 1878, 1879, 1880, 1881, 1882, 1883, 1885, 1886, 1887, 1888, 1889.
- Page, William P.,—1856, 1857, 1858.
- Paine, James L.,—1887, 1888, 1889, 1890, 1891, 1892.
- Parker, Joseph W.,—1840, 1841, 1842, 1844, 1845, 1846, 1847, 1848, 1849, 1854, 1855.
- Peabody, Andrew P.,—1870, 1871, 1872, 1873, 1874, 1875, 1876, 1877, 1878, 1879, 1880, 1881.
- Perkins, Frederick T.,—1850, 1851.
- Pervear, Hiram K.,—1863, 1864.
- Piper, William Taggard,—1891, 1892,† 1893,† 1894,† 1895,† 1896,† 1897,† 1898,† 1899,† 1900,† 1901,† 1902,† 1903,† 1904.†
- Powers, James F.,—1865, 1866.
- Parmenter, Ezra, 1867.*
- Rand, Benjamin,—1841.
- Raymond, Zebina L., 1855,* 1864.*
- Richardson, George C.,—1863.*
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- Russell, J. Henry.,—1901, 1902, 1903, 1904.
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- Saunders, Charles H.,—1868,* 1869.*
- Saunders, William A.,—1865.
- Sawyer, Jabez A.,—1861, 1862, 1863, 1864, 1869, 1870, 1874, 1883.
- Sawyer, Samuel,—1858, 1859.
- Scudder, Horace E.,—1877, 1878, 1879, 1880, 1881, 1882.
- Scully, Frank P.,—1883.
- Scully, Thomas,—1868, 1869.
- Skinner Charles A.,—1855, 1856, 1857, 1858, 1859, 1863, 1864, 1865, 1866.
- Smith, Clement L.,—1882, 1883.
- Sortwell, Alvin H.,—1897,* 1898.*
- Start, William A.,—1872, 1873, 1879, 1880, 1881, 1882, 1883, 1884, 1885, 1886, 1887, 1888, 1889, 1890, 1891, 1892.
- Stearns, William A.,—1843, 1844, 1845, 1846, 1847, 1848, 1849, 1854.
- Stevens, Edmund H.,—1876, 1877, 1878, 1879, 1880, 1881.
- Stevens, George,—1851,* 1852.*
- Stewart, Anne Clark,—1890, 1891, 1892, 1893, 1894, 1895, 1896.
- Stimpson, Herbert H.,—1868.
- Stone, Arthur P.,—1901, 1902, 1903, 1904.
- Taylor, Frederic W.,—1892, 1893, 1894, 1895, 1896, 1897, 1898, 1899, 1900.
- Taylor, John B.,—1852, 1853, 1854, 1855, 1860, 1861, 1862, 1863, 1864, 1865, 1866.

- Bussig, Frank W.,—1893, 1894, 1896,
 1897, 1898, 1899, 1900, 1901.
 Cayer, Henry,—1858, 1859.
 Cressher, James M.,—1869, 1870, 1871.
 Hurston, Charles H.,—1900, 1901, 1902,
 1903, 1904.
 Ilton, Henry N.,—1882, 1883, 1884,
 1885, 1886, 1887.
 Orrey, Henry W.,—1859, 1860, 1861,
 1862.
 Urner, Obed C.,—1882.
 Weed, Benjamin F.,—1881, 1882, 1883,
 1884, 1885, 1886.
 Wining, Kingsley,—1869, 1870, 1871,
 1872.
 Tyler, Joseph H.,—1867, 1868, 1869,
 1870.
 Tadmán, Theophilus G.,—1875, 1876.
 Talcott, Henry P.,—1869, 1870, 1871,
 1872, 1873.
 Walker, Robert,—1901, 1902, 1903, 1904.
 Walsh, Edmund,—1889, 1890, 1891.
 Warren, Henry W.,—1866, 1867.
 Wellington, William W.,—1846, 1847,
 1848, 1849, 1850, 1851, 1852, 1853,
 1855, 1856, 1857, 1859, 1860, 1861, 1862,
 1863, 1864, 1865, and as Secretary
 from 1865 to 1887, 22 years.
 Wentworth, James Frank,—1903, 1904.
 White, Alphonzo E.,—1888, 1889, 1890,
 1893, 1894, 1895, 1896, 1897.
 Wilkinson, Nathan,—1852, 1853.
 Willard, Sidney,—1848,* 1849,* 1850.*
 Williams, Charles H.,—1903, 1904.
 Willis, Lemuel,—1843, 1844, 1845.
 Williston, Lyman R.,—1869, 1870.
 Wilson, John,—1878, 1879, 1880.
 Wyman Charles F.,—1891, 1892, 1893,
 1894, 1895, 1896, 1897, 1898, 1899,
 1900, 1901, 1902, 1903.
 Wyman, Morrill,—1840, 1868, 1869.

Hale, Edwin B.; Superintendent of Schools,—1868, 1869, 1870, 1871, 1872, 1873.

Cogswell, Francis; Superintendent of Schools since September, 1874.

Mirick, Lella A.; Supervisor of Primary Schools,—1892, 1893, 1894.

Lewis, Mary A.; Supervisor of Primary Schools and Kindergartens, since
 March, 1895.

* Mayor, chairman, *ex officio*.

† Presiding officer. Office created in 1891.

SELECTIONS FROM THE RECORDS OF THE MEETINGS OF
THE SCHOOL COMMITTEE.

JANUARY 9, 1903.

Organization of the Board. Persons elected for three years:—At large, Warren P. Adams; Ward Three, James Frank Wentworth; Ward Four, Charles H. Williams; Ward Six, Mary E. Mitchell; Ward Eleven, Seth N. Gage. Persons elected for one year:—Ward Five, J. Henry Russell. William Taggard Piper was elected president of the Board; Sanford B. Hubbard, secretary; and William E. McAnaul, page.

Communication from Superintendent of Schools, Malden. An invitation from George E. Gay, superintendent of schools of Malden, to the members of the Board to visit an exhibition of Aids to Instruction in Geography at the Malden high school hall, Jan. 22, 23 and 24, afternoons and evenings, was received and placed on file.

Communication from His Honor the Mayor. His Honor the Mayor read to the Board a communication containing criticisms and suggestions in regard to the management of the schools, especially of the Latin and English high schools, and of the evening schools, and at its close, resigned the chair to the president of the Board.

Voted, that His Honor be requested to furnish a copy of this communication to the Board, and that the part in regard to the high schools be referred to the committee on high schools, and that the part in regard to the evening schools be referred to the committee on evening schools.

This communication was printed in full in the records of the meeting of the school committee of February 19, 1903.

Physical Training in the High Schools. The report of the committee on high schools, recommending the introduction of physical training into the Latin and English high schools, was laid on the table.

Closing the Dunster School. The proposition to close the Dunster school was taken up and the following order was offered:—That the Dunster school shall be abandoned as unfit for school use and that the pupils be transferred to the Peabody school. After discussion, the matter was referred to the committee on schoolhouses with the request that they report at the next meeting of the Board.

At the meeting of the Board in February the following was adopted:—The committee on schoolhouses to which was referred the above order, reports that they are unanimously of the opinion that the Dunster school is not a menace to health and that with slight repairs it can be put in condition to be used for many years.

FEBRUARY 19, 1903.

Appointment of Head Janitor. Communication from His Honor the Mayor. The following was received and placed on file:—

OFFICE OF THE MAYOR,
CAMBRIDGE, JANUARY 14, 1903.

TO THE SCHOOL COMMITTEE,

GENTLEMEN,—For your information, I desire to notify you that I have this day appointed John Roach, now janitor of the Peabody schoolhouse, to be head janitor. This appointment is made in accordance with a vote of the school committee passed at its meeting of December 18, 1902.

Respectfully,

(Signed)

JOHN H. H. MCNAMEE,
Mayor.

Resignation of Ada H. Wellington. The resignation of Ada H. Wellington as master's assistant in the Harvard school, to take effect March 1, 1903, at the end of forty-four years of service as teacher in that school, was accepted. Miss Wellington was appointed a teacher in the Harvard school March 1, 1859.

Massachusetts Total Abstinence Society. The following recommendation was adopted:—The committee on rules reports, recommending that the communication of the Massachusetts Total Abstinence Society be referred to the superintendent of schools with authority to make such arrangements as in his judgment seems best, provided, however, that no pledges be requested and no pledge cards be left with the pupils.

Report of the Committee on Evening Schools. The following was adopted:—In answer to the communication from the Mayor in regard to the teachers of the day schools teaching in the evening schools, the committee on evening schools reports that the matter has been for a year and is at the present under advisement, but it is not prepared to make any report at this time.

Report of the Committee on High Schools. The majority and minority reports of the committee on high schools were laid on the table. These reports were printed in full in the report of the meeting of the school committee of February 19, 1903. At the meeting of the committee March 19, the majority report was adopted.

Stone Tablet on the Washington Schoolhouse. The following was adopted:—Ordered, that His Honor the Mayor, be requested to have the stone tablet now on the Washington schoolhouse on Brattle street reserved when the building shall be disposed of.

Money Received from Sale of Schoolhouses. The following was adopted :— Ordered, that the city council be informed that in the opinion of this Board all money received from the sale of schoolhouses and lots should be reserved for the care and repair of schoolhouses and the erection of new school buildings.

New Schoolhouse in Ward Seven. The following was adopted :— Ordered, that the city council be informed that there is immediate necessity for a new brick schoolhouse of fourteen rooms and a hall in that part of Cambridge formerly Ward Four, and that it be requested to arrange for the erection of such a building on the land reserved for the purpose near Western avenue.

Lot on Centre Street to be Reserved. The following was adopted :— Ordered, that the city council be requested to reserve the lot on Centre street now occupied by the Dana schoolhouse, for a brick schoolhouse to be erected in the near future.

Provision for Curbstones and Brick Sidewalks. The following recommendation of the committee on schoolhouses was adopted :— Ordered, that the city council be requested in making appropriations for new schoolhouses hereafter, always to include provision for curbstones and brick sidewalks, unless they have been laid already.

Petition for a Kindergarten in the Morse School District. The following petition, signed by Charles E. Wentworth and forty-six others, was referred to the committee on kindergartens and the committee on schoolhouses, acting jointly :—

TO THE HONORABLE, THE SCHOOL COMMITTEE OF
THE CITY OF CAMBRIDGE :—

We, the undersigned citizens of Cambridge and parents of children between the ages of three and five years, and residents of that part of Cambridge in which the children attend the Morse and Willard schools, do most respectfully pray that your committee do consider at the earliest opportunity the advisability of establishing a kindergarten in the Morse school district, and if the necessary room cannot be had at the Morse schoolhouse that you consider the obtaining of suitable rooms outside, but as near as possible to this school, and take such steps as may be necessary to provide for the procuring of the same.

We also ask that a hearing be granted on the petition at the earliest possible date.

MARCH 19, 1903.

Petition for a Kindergarten near the Morse Schoolhouse not Granted. The following was adopted :— The committee on schoolhouses and that on kindergartens acting jointly, to which the petition of Charles E. Wentworth and others was referred February 19, report that in view of

the fact that the Willard kindergarten has been opened for an afternoon session and that many of the children represented by the petitioners can be taken care of in this way, the committees recommend that no action be taken at this time looking toward opening a kindergarten in the Morse district.

Equipment of the Machine Shop at the Rindge Manual Training School. The following was adopted:—The committee on high schools reports that the equipment of the machine shop in the Rindge manual training school is not adequate to the increase in the number of pupils; it is therefore recommended that a sum not exceeding \$2,000 may be expended in the purchase of additional lathes and machinery.

Revision of the Course of Study. The following was laid on the table by a rising vote of nine to three:—Ordered, that the school board, acting as a committee of the whole, shall revise the course of study for the primary, grammar, and high schools, with the purpose of better fitting it to the needs of the great majority of the pupils who cannot have the advantages of a college education.

APRIL 16, 1903.

Pupils to Enter the Kindergartens in September only. The following was adopted:—Children between three and a half and five years of age may be admitted to the kindergarten nearest their home by applying to the principal during the month of September only, except by permission of the superintendent. They may remain one year, or for a longer time if less than five years of age.

National Educational Association. The following was adopted:—Whereas, the National Educational Association is to hold its annual meeting in Boston during the week beginning July 6: Ordered, that a committee of this Board, of which the president shall be the chairman, be appointed to represent the Board and to render any service that may be helpful to the officers of the association in carrying out their plans for the meeting and that the superintendent be requested to act with this committee.

The president appointed as members of this committee, Mr. Russell, Mrs. Chase, and Mr. Walker.

MAY 21, 1903.

Tuition of Pupils. The following was adopted:—The committee on finance recommends that the superintendent shall have authority to permit pupils whose parents have removed from Cambridge during the spring term, to attend the Cambridge schools during the remainder of the current school year without payment of tuition.

Revision of the Course of Study. The order relating to the course of study, which was laid on the table March 19, was taken up, amended to read as follows and adopted: Ordered, that a committee of five be appointed by the chairman to consider the expediency of revising the course of study for the primary, grammar, and high schools with the purpose of better fitting it to the needs of the great majority of the pupils who cannot have the advantages of a college education.

The committee was constituted as follows:— Mr. Thurston, Mrs. Chase, Mr. Bicknell, Mr. Williams, and Mr. Adams.

Letter from President Eliot. A letter was received from President Eliot thanking the Board for their offer of assistance in the entertainment of the National Educational Association.

Petition for a Forenoon Kindergarten in the Vicinity of the Morse Schoolhouse. A petition, asking that a kindergarten holding its sessions in the forenoon, be established at the opening of the school year in September in the vicinity of the Morse schoolhouse, signed by Mrs. G. Fraser and eleven others, was referred to the committee on kindergartens.

JUNE 18, 1903.

Petition to Name one of the New Schoolhouses. The following petition, signed by Jeremiah F. Downey and five hundred fifty-six other persons, was submitted by His Honor the Mayor and referred to a special committee constituted as follows: His Honor Mayor McNamee, the president of the Board, Mr. Piper, and Messrs. Walker, Wentworth, and Stone:—

CAMBRIDGE, MASS., May 18, 1903.

TO HIS HONOR THE MAYOR, AND THE SCHOOL COMMITTEE
OF THE CITY OF CAMBRIDGE:—

We, the undersigned, former pupils of the Thorndike grammar school, believing that the fifty years of faithful service which Mr. Ruel H. Fletcher has rendered the school system of Cambridge should be commemorated in some fitting manner, do hereby petition your honorable body to name one of the school buildings now in process of construction after our beloved principal.

Dana School Lot. The following was adopted:— The committee on schoolhouses recommends that a communication be sent to His Honor the Mayor and the city council, that it is the opinion of the school committee that the Dana school lot on Centre street should be held by the city for school purposes; but if it is sold, that the proceeds should be expended for repairs and improvements of existing school buildings.

JULY 2, 1903.

Petition for a Change of Hours at the Agassiz School. The following petition, signed by Mrs. H. L. Warren and twenty others, was referred to the committee on schoolhouses:—

TO THE SCHOOL COMMITTEE OF CAMBRIDGE:—

LADIES AND GENTLEMEN,—The undersigned mothers of children attending the Agassiz school respectfully and urgently petition your Board to change the hours at the Agassiz school so that there may be one session instead of two. Our reasons for asking this are:—

First, that in our opinion by the present arrangement the children do not get sufficient out-door play;

Second, that for children who live at a distance it is very inconvenient to have to go to school twice a day;

Third, that the younger children are too tired, towards the end of the afternoon to concentrate their minds upon school work, so that the second session is comparatively unprofitable;

Fourth, that the afternoons are often so dark that it is impossible for the children to use their eyes the latter part of the time.

Additional Appropriation Requested. The following was adopted:—Ordered, that a communication be sent to the city council requesting that an additional appropriation of Two Thousand Dollars (\$2,000) be made from the money received from the tuition of pupils in the schools for the purchase of text-books and supplies, it having been necessary to expend that amount for additional equipment for the Rindge manual training school in order to accommodate the increase in the number of pupils in that school.

Petition to Name the Willow Street School. The following petition was referred to the special committee consisting of His Honor Mayor McNamee, the president of the Board, Mr. Piper, and Messrs. Walker, Wentworth, and Stone, appointed at the meeting of June 18, to consider a petition of like import:—

CAMBRIDGE, June, 1903.

The undersigned residents and taxpayers of Cambridge, in the neighborhood of the new schoolhouse on Willow street, respectfully represent that in naming this school building consideration should be paid to the wishes of the inhabitants of this section, and as the undersigned believe that a citizen of Cambridge who has been well and favorably known by his kindly deeds and good services in the community should be honored in the choice of a name, they therefore respectfully pray that the new

school now in the course of erection on Willow street may be known as the "Joseph J. Kelley School," in grateful memory of a citizen of Cambridge who won the respect of all classes by an unselfish life and devotion to others.

Signed by James J. Malley and sixty-seven others.

SEPTEMBER 17, 1903.

Report of the Committee on Schoolhouses. The following was accepted and placed on file:—The committee on schoolhouses respectfully reports that they are gratified to learn that so much has been done in the way of improvements and repairs on many of the schoolhouses, as was recommended at the close of the school year. They feel bound, however, to call the attention of the Mayor to the condition of the Rindge manual training school building and that of the Dunster, and to the pressing necessity that they be repaired as soon as possible.

Grounds of some of the School Buildings well Cared for. The following was accepted and placed on file:—The committee on schoolhouses wish to express their pleasure that the grounds around many of the school buildings have been well cared for by the janitors during the summer, and would mention especially the Agassiz, Peabody, Taylor, and Webster.

OCTOBER 15, 1903.

Money Appropriated for Plans for a New Schoolhouse. A communication from the city clerk, being a copy of an order adopted by the city council appropriating \$500 for the purpose of obtaining plans for a schoolhouse to be built on the Mill Pond lands, was received and placed on file.

Change of Hours at the Agassiz School not Expedient. The committee on schoolhouses respectfully reports that, at a meeting of the committee held October 5, a hearing was given the petitioners and those interested in a change in the hours of the sessions at the Agassiz school. After listening to the arguments presented, the committee deem it inexpedient to have one continuous session at the Agassiz school as petitioned for.

This change would cause many complications in the other schools and it is thought best not to change the time of the sessions throughout the city.

It is therefore recommended that the petitioners have leave to withdraw.

NOVEMBER 19, 1903.

Two New Schoolhouses Named. The report of the special committee appointed to consider the petition of June 18, and that of July 2, was

adopted as follows:— Voted, that the new schoolhouse on Willow street be named the “Kelley School” in honor of the late Joseph J. Kelley of this city.

Voted, that the new schoolhouse in course of construction on Elm street be named the “Fletcher School” in honor of Ruel H. Fletcher, a principal in the public schools of this city.

DECEMBER 17, 1903.

A Communication from His Honor the Mayor. A communication from His Honor the Mayor inclosing the following, was received and placed on file:—

Ruel H. Fletcher desires to thank His Honor the Mayor and the school committee for naming the Elm street schoolhouse the Fletcher school. He is deeply touched by this kindly act and is much gratified with the implied assurance that his long service in the Thorndike school is appreciated and that he is deemed worthy of the honor bestowed upon him.

Shaw Kindergarten to Return its Name. The following was adopted:— Whereas, for the past fourteen years Mrs. Quincy A. Shaw has provided accommodations for a kindergarten free of cost to the city: Ordered, that the thanks of the school committee be tendered to Mrs. Shaw for this generous act which shows her abiding interest in the kindergartens which she established and maintained at her own expense for many years. Also, ordered, that this kindergarten transferred from the rooms of Mrs. Shaw to the Kelley school be called, as heretofore, the “Shaw Kindergarten.”

Superintendent to Prepare the School Report. Ordered, that the superintendent of schools be requested to prepare and present to the Board for its consideration the annual school report; and that he be authorized to select and print in that report such portions of the reports now read as may in his judgment be of public interest. Also to make selections from any further reports of committees that may be made later.

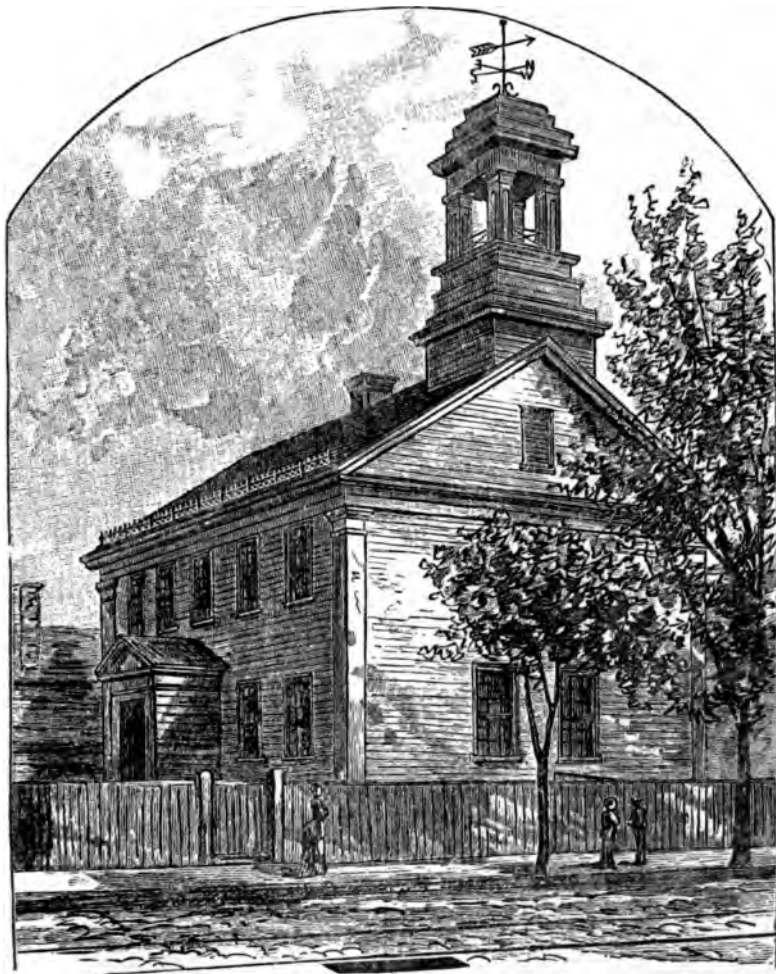
Vote of Thanks to the President. The following was adopted by a unanimous rising vote:— Voted, that the thanks of this Board be hereby tendered to the president of the Board, William Taggard Piper, for the marked ability and courtesy manifested by him during the past year in the performance of the duties of his office in connection with this Board.

DECEMBER 30, 1903.

Change of Rules. The special order of business was the consideration of the draft of the rules submitted by the committee on rules at the meeting of December 17.

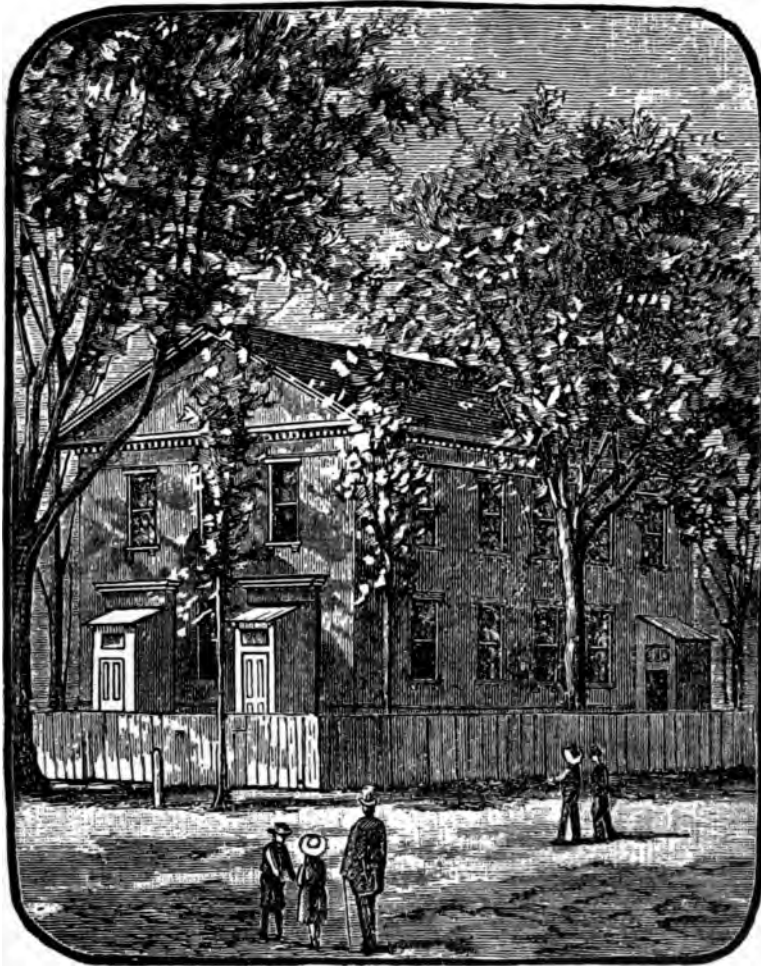
The rules as submitted and amended excepting sections 14, 15, 33, and 34, which were referred to the committee on rules, were unanimously adopted by a rising vote.

School Board of 1903 to Adjourn. Ordered, that the school board of 1903 adjourn until it shall be convened by the secretary in accordance with the rules.

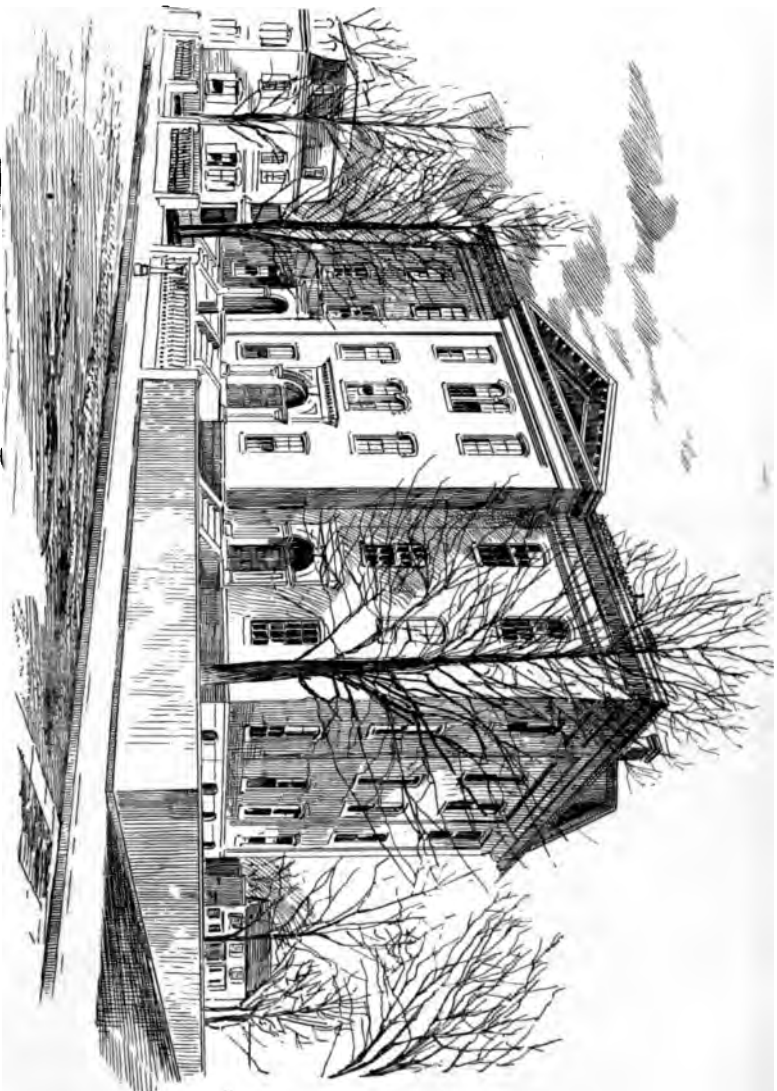


First High School Building, Cambridge
1838 — 1844

12



Second High School Building, Cambridge
1848 — 1864



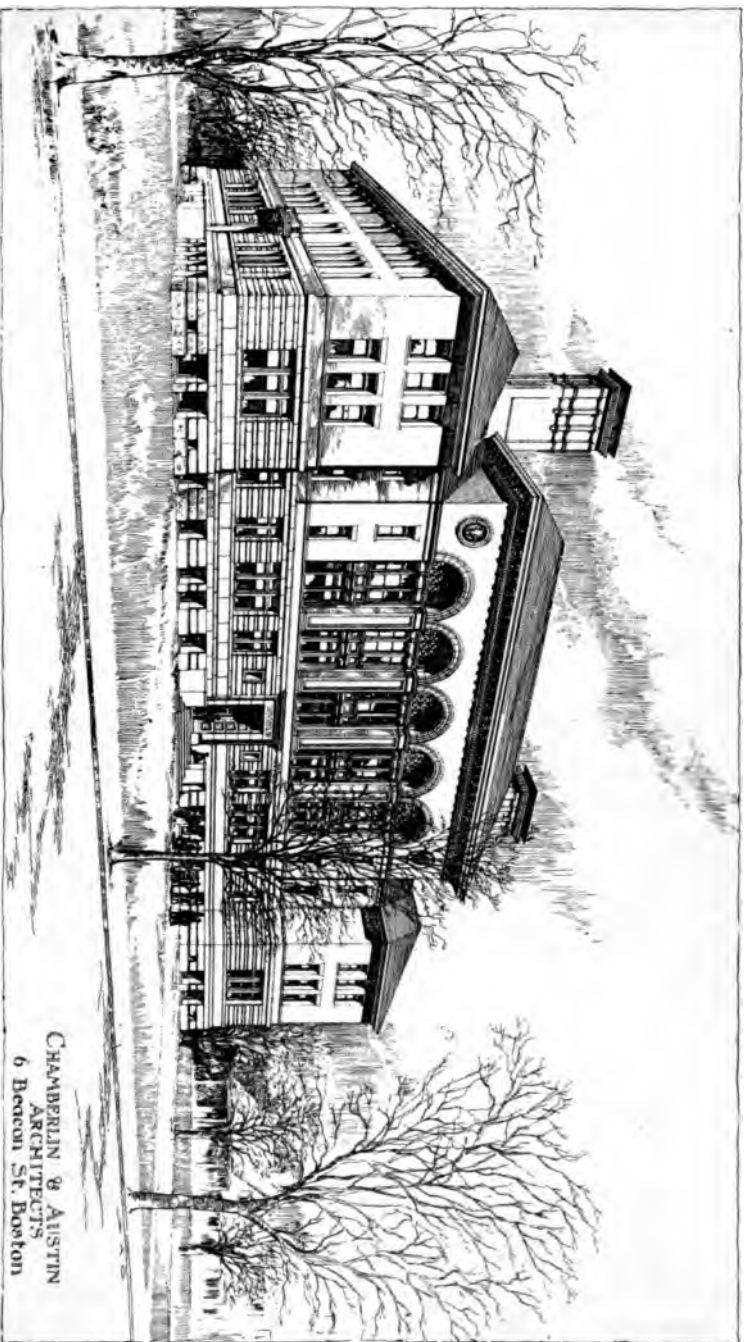
Third High School Building, Cambridge

1864 — 1892

Used for the Latin School, 1892 — 1899

1000

2



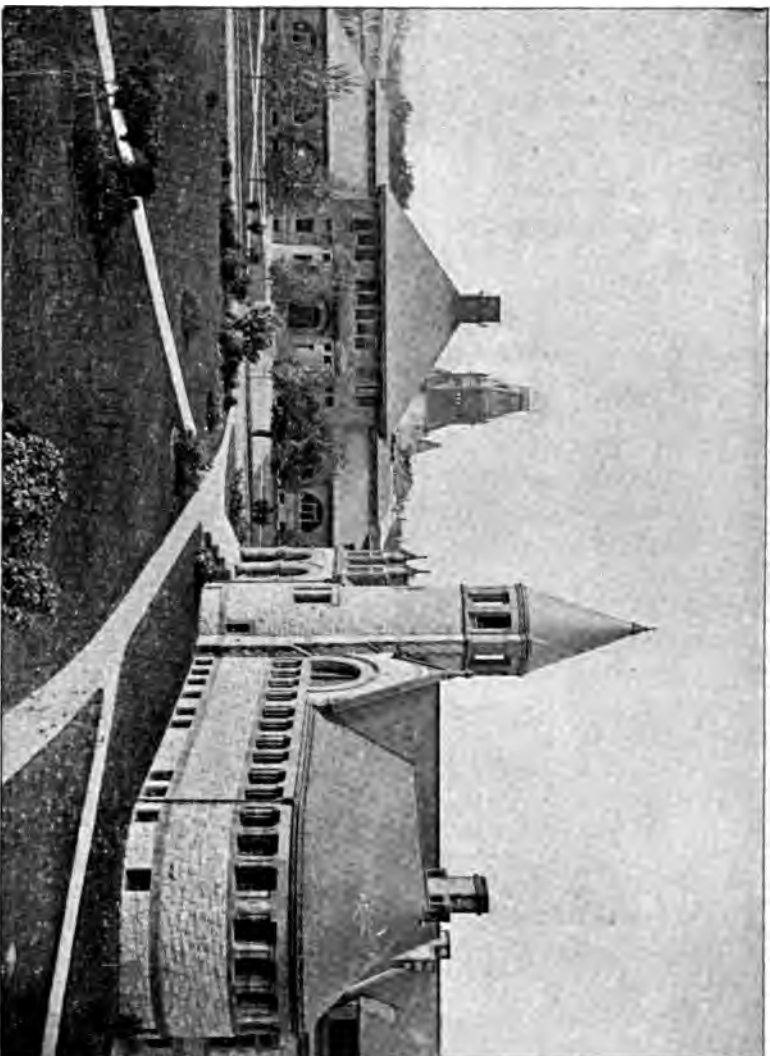
CHAMBERLIN & ALISTIN
ARCHITECTS
6 Beacon St. Boston

**English High School Building, Cambridge
1892**



HASWELL, WILLIAMSON & DENNEY
ARCHITECTS, 200 BOSTON

Latin School Building, Cambridge
1899



Rindge Manual Training School

Cambridge Public Library





City of Cambridge
Massachusetts

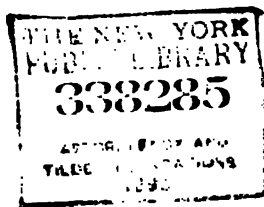
ANNUAL REPORT
OF THE
SCHOOL COMMITTEE

PREPARED BY THE
SUPERINTENDENT OF SCHOOLS

1904



PRINTED FOR THE DEPARTMENT



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REPORT OF THE SCHOOL COMMITTEE FOR 1904

In compliance with Section 44 of the Rules of the School Board, the Superintendent herewith submits his thirtieth annual report, it being for the year ending December 31, 1904 : —

POPULATION OF CAMBRIDGE.

1875	47,838	1895	81,643
1885	59,658	1900	91,886
1904 (estimated)		97,826	

SCHOOL CENSUS.

Number of children in the city five years old or more, but less than fifteen.

1885 (taken in May)	10,957	1895 (taken in May)	12,869
1890 (taken in May)	11,971	1904 (taken in September) . .	15,678

SCHOOLS AND CLASS ROOMS.

Latin School	1	Class rooms in use	15
English High School	1	" " "	11
Manual Training School . . .	1	" " "	10
Grammar Schools	7	" " "	92
Primary Schools	16	" " "	80
Grammar and Primary Schools .	10	" " "	113
Kindergartens	15	" " "	14
Evening Drawing Schools . . .	2	" " "	5
Evening High School	1	" " "	10
Evening Elementary Schools . .	4	" " "	27
Whole number of Day Schools . .			51
Number of class rooms for Day Schools			335

NUMBER OF TEACHERS IN THE DAY SCHOOLS.

[Special teachers are included in the total.]

December	Latin School	English High School	Manual Training School	Grammar Schools	Primary Schools	Kindergartens	Total
1900	22	24	14	173	142	26	409
1901	22	24	14	177	143	25	413
1902	24	24	15	179	140	25	417
1903	23	24	16	183	142	29	428
1904	23	24	19	187	142	29	435

REPORT OF SCHOOL COMMITTEE.

ATTENDANCE AT ALL THE DAY SCHOOLS.

Year	Number of Pupils Registered	Average Number Belonging	Average Daily Attendance	Per cent of Attendance
1900	16,203	13,816	12,684	91.8
1901	16,065	14,144	13,021	92.1
1902	16,341	14,244	13,215	92.8
1903	16,394	14,397	13,250	92.0
1904	16,257	14,454	13,361	92.4

ATTENDANCE AT THE LATIN SCHOOL.

Year	Number of Pupils Registered	Average Number Belonging	Average Daily Attendance	Per cent of Attendance
1900	430	404	385	95.2
1901	490	468	449	96.1
1902	488	465	441	95.1
1903	501	474	451	94.9
1904	516	487	465	95.5

ATTENDANCE AT THE ENGLISH HIGH SCHOOL.

Year	Number of Pupils Registered	Average Number Belonging	Average Daily Attendance	Per cent of Attendance
1900	572	514	491	95.6
1901	613	517	490	94.8
1902	577	498	464	93.1
1903	583	493	470	95.3
1904	605	556	530	95.4

ATTENDANCE AT THE MANUAL TRAINING SCHOOL.

Year	Number of Pupils Registered	Average Number Belonging	Average Daily Attendance	Per cent of Attendance
1900	212	192	183	95.5
1901	217	191	184	96.2
1902	254	242	229	94.4
1903	300	262	251	95.9
1904	351	315	302	95.9

ATTENDANCE AT THE GRAMMAR SCHOOLS.

Year	Number of Pupils Registered	Average Number Belonging	Average Daily Attendance	Per cent of Attendance
1900	7,192	6,295	5,891	93.6
1901	7,044	6,483	6,079	93.8
1902	7,359	6,711	6,316	94.1
1903	7,279	6,725	6,506	93.8
1904	7,322	6,701	6,316	94.3

ATTENDANCE AT THE PRIMARY SCHOOLS.

Year	Number of Pupils Registered	Average Number Belonging	Average Daily Attendance	Per cent of Attendance
1900	6,888	5,788	5,267	91.0
1901	6,815	5,840	5,310	90.9
1902	6,687	5,708	5,249	92.0
1903	6,711	5,755	5,227	90.8
1904	6,534	5,705	5,194	91.0

ATTENDANCE AT THE KINDERGARTENS.

Year	Number of Pupils Registered	Average Number Belonging	Average Daily Attendance	Per cent of Attendance
1900	909	623	467	74.9
1901	886	645	509	78.9
1902	976	620	516	83.2
1903	1,020	688	545	79.2
1904	929	690	554	80.2

NUMBER OF PUPILS ADMITTED TO THE LOWEST GRADE OF THE LATIN SCHOOL.

Course, 5 years.

Year	Boys	Average Age	Girls	Average Age
1900	84	14 years 5 months	70	14 years 5 months
1901	57	14 years 6 months	58	14 years 2 months
1902	60	14 years 5 months	88	14 years 4 months
1903	65	14 years 4 months	80	14 years 5 months
1904	67	14 years 5 months	91	14 years 7 months

NUMBER OF PUPILS GRADUATED FROM THE LATIN SCHOOL.

Course, 5 years.

Year	Boys	Average Age	Girls	Average Age
1900	20	18 years 11 months	19	18 years 11 months
1901	22	18 years 7 months	34	19 years 0 months
1902	23	19 years 1 month	39	18 years 9 months
1903	18	18 years 4 months	31	18 years 10 months
1904	19	18 years 1 month	31	18 years 9 months

REPORT OF SCHOOL COMMISSIONER

NUMBER OF PUPILS ADMITTED TO THE LOWEST GRADE OF THE ENGLISH HIGH SCHOOL.

Year	Boys	Average Age	Girls	Average Age
1900	56	15 years 5 months	170	15 years 1 month
1901	46	14 years 11 months	145	15 years 0 months
1902	41	14 years 8 months	155	15 years 1 month
1903	58	14 years 8 months	192	15 years 0 months
1904	24	14 years 5 months	186	15 years 0 months

NUMBER OF PUPILS GRADUATED FROM THE ENGLISH HIGH SCHOOL.

Year	Boys	Average Age	Girls	Average Age
1900	23	18 years 2 months	45	18 years 8 months
1901	13	18 years 3 months	47	18 years 9 months
1902	25	18 years 7 months	61	18 years 9 months
1903	15	18 years 8 months	58	18 years 7 months
1904	12	18 years 7 months	64	18 years 9 months

NUMBER OF PUPILS ADMITTED TO THE LOWEST GRADE OF THE MANUAL TRAINING SCHOOL, WITH THE NUMBER OF GRADUATES.

Year	Admitted	Average Age	Graduated	Average Age
1900	74	15 years 0 months	16	19 years 0 months
1901	110	15 years 2 months	21	18 years 3 months
1902	127	15 years 2 months	23	19 years 2 months
1903	144	15 years 2 months	38	18 years 7 months
1904	194	15 years 0 months	30	18 years 3 months

NUMBER OF PUPILS GRADUATED FROM THE GRAMMAR AND PRIMARY SCHOOLS.

Year	Grammar Schools. Course, 6 yrs.	Average Age	Primary Schools. Course, 3 yrs.	Average Age
1900	582	14 years 11 months	1,423	9 years 7 months
1901	565	14 years 11 months	1,467	9 years 7 months
1902	643	14 years 11 months	1,469	9 years 6 months
1903	648	14 years 9 months	1,428	9 years 5 months
1904	708	14 years 10 months	1,444	9 years 6 months

LENGTH OF TIME IN COMPLETING THE COURSE OF STUDY IN THE
GRAMMAR SCHOOLS.

Year	In 4 years	In 5 years	In 6 years	In 7 years or more
1900	6 per cent	28 per cent	50 per cent	16 per cent
1901	6 per cent	28 per cent	50 per cent	16 per cent
1902	7 per cent	27 per cent	51 per cent	15 per cent
1903	6 per cent	26 per cent	53 per cent	15 per cent
1904	5 per cent	28 per cent	52 per cent	15 per cent

LENGTH OF TIME IN COMPLETING THE COURSE OF STUDY IN THE
PRIMARY SCHOOLS.

Year	In 2 years	In 2½ years	In 3 years	In 3½ years	In 4 years	In 4½ years or more
1900	2 per cent	2 per cent	59 per cent	6 per cent	22 per cent	9 per cent
1901	3 per cent	1 per cent	61 per cent	5 per cent	20 per cent	10 per cent
1902	2 per cent	2 per cent	62 per cent	4 per cent	20 per cent	9 per cent
1903	3 per cent	2 per cent	60 per cent	5 per cent	22 per cent	8 per cent
1904	3 per cent	3 per cent	54 per cent	6 per cent	24 per cent	10 per cent

NUMBER OF PUPILS IN THE LATIN SCHOOL, DECEMBER, 1904.

Grade	Boys	Girls	Total	Per cent
Fourteenth.....	41	32	73	.133
Thirteenth.....	40	36	76	.139
Twelfth.....	38	70	108	.197
Eleventh.....	51	71	122	.223
Tenth.....	74	95	169	.308
Total.....	244	304	548	

NUMBER OF PUPILS IN THE ENGLISH HIGH SCHOOL, DECEMBER, 1904.

Grade	Boys	Girls	Total	Per cent
Thirteenth.....	14	70	84	.148
Twelfth.....	22	81	103	.181
Eleventh.....	23	133	156	.274
Tenth.....	27	187	214	.376
Specials.....	3	9	12	.021
Total.....	89	480	569	

REPORT OF SCHOOL COMMITTEE.

NUMBER OF PUPILS IN THE MANUAL TRAINING SCHOOL, DECEMBER, 1904.

Grade	Boys		Per cent
Thirteenth	50	This school is for boys only. It became a part of the public school system, January 1, 1899.	.122
Twelfth.....	81		.197
Eleventh.....	95		.231
Tenth.....	185		.450
Total	411		

NUMBER OF PUPILS IN THE GRAMMAR SCHOOLS, DECEMBER, 1904.

Grade	Boys	Girls	Total	Per cent
Ninth.....	292	369	661	.094
D.....	57	54	111	.016
Eighth.....	371	470	841	.119
C.....	88	94	182	.026
Seventh.....	448	511	959	.136
Sixth.....	585	573	1,158	.164
B.....	113	131	244	.035
Fifth.....	593	627	1,220	.173
A.....	141	200	341	.048
Fourth.....	697	631	1,328	.189
Total.....	3,385	3,660	7,045	

NUMBER OF PUPILS IN THE PRIMARY SCHOOLS, DECEMBER, 1904.

Grade	Boys	Girls	Total	Per cent
Third	916	790	1,706	.296
Second.....	1,025	820	1,845	.320
First	1,168	1,041	2,209	.384
Total	3,109	2,651	5,760	

NUMBER OF PUPILS AND TEACHERS IN THE KINDERGARTENS.

Year	Boys	Girls	Total	Number of Teachers
1902	358	364	722	25
1903	383	381	764	29
1904	378	364	742	29

**NUMBER OF PUPILS BELONGING TO THE EVENING DRAWING SCHOOLS, WITH THE
AVERAGE ATTENDANCE.**

1899	1900	1901	1902	1903	1904
194 90	184 99	193 97	220 114	187 98	167 102

**NUMBER OF PUPILS BELONGING TO THE EVENING SCHOOLS, WITH THE AVERAGE
ATTENDANCE.**

1899	1900	1901	1902	1903	1904
1,158 452	1,248 420	1,286 464	1,367 510	1,664 625	1,795 720

**NUMBER OF PUPILS IN THE PRIVATE SCHOOLS IN CAMBRIDGE, INCLUDING THOSE
IN THE PAROCHIAL SCHOOLS.**

1899	1900	1901	1902	1903	1904
2,713	3,004	3,439	3,451	3,711	4,047

NUMBER OF AGE AND SCHOOLING CERTIFICATES ISSUED.

1899	1900	1901	1902	1903	1904
324	380	387	507 *354	565 *655	578 *859

* Issued to minors over sixteen years of age, in accordance with the law of 1902.

COST OF INSTRUCTION FROM 1840 TO 1874.

[In obtaining the cost per pupil for these years the number of pupils belonging to the schools in December has been used, as the average number cannot be obtained.]

Year	Number of Teachers	Number of Pupils	Whole Cost	Cost per Pupil
1840	20	1,388	\$6,747 00	\$4 86
1841	22	1,635	7,309 67	4 47
1842	23	1,871	8,374 32	4 47
1843	28	1,918	9,003 00	4 69
1844	31	2,000	9,609 75	4 80
1845	37	2,151	11,558 37	5 37
1846	38	2,227	12,940 00	5 81
1847	39	2,228	14,025 00	6 29
1848	43	2,408	16,996 42	7 05
1849	46	2,561	18,900 00	7 37
1850	49	2,597	20,025 00	7 71
1851	54	2,738	21,925 00	8 00
1852	58	2,929	23,125 00	7 89
1853	61	2,966	24,225 00	8 16
1854	62	3,047	27,216 55	8 93
1855	64	3,196	28,325 50	8 86
1856	70	3,289	29,425 00	8 94
1857	72	3,366	32,885 00	9 76
1858	78	3,744	34,075 00	9 10
1859	84	4,145	36,300 00	8 75
1860	88	4,417	37,550 00	8 50
1861	92	4,589	39,300 00	8 56
1862	93	4,851	39,650 00	8 17
1863	99	5,077	42,425 00	8 37
1864	105	5,277	56,675 00	10 74
1865	108	5,335	71,350 00	13 37
1866	115	5,578	75,975 00	13 62
1867	125	5,864	82,900 00	14 13
1868	134	6,167	91,400 00	14 82
1869	137	6,187	95,650 00	15 45
1870	145	6,483	105,250 00	16 23
1871	156	6,840	125,650 00	18 36
1872	165	7,133	137,900 00	19 33
1873	172	7,379	143,000 00	19 46
1874	184	7,816	157,550 00	21 35

COST OF INSTRUCTION IN THE DAY SCHOOLS.

[Salaries of teachers, superintendent, supervisor, agent, clerks, and truant officers.]

Year	Number of Teachers in December	Average Number of Pupils	Whole Cost	Cost per Pupl
1876	176	7,066	\$164,818 00	\$23 32
1880	182	7,175	130,371 75	18 17
1884	216	8,414	152,290 62	18 09
1888	241	9,756	175,773 80	18 02
1892	284	10,861	207,144 22	19 07
1894	312	11,166	228,873 48	20 50
1896	337	11,957	245,104 01	20 50
1898	364	12,907	268,182 97	20 78
1900	409	13,816	326,512 34	23 63
1901	413	14,144	336,149 80	23 77
1902	417	14,244	343,787 00	24 14
1903	428	14,397	349,179 80	24 25
1904	435	14,454	356,406 89	24 66

COST OF THE DAY SCHOOLS.

[This includes the cost of instruction, of text-books and supplies, of incidental expenses, of the care of truants, of the care and *repair of schoolhouses, and of the transportation of pupils.]

Year	Number of Teachers in December	Average Number of Pupils	Whole Cost	Cost per Pupl
1876	176	7,066	\$200,894 09	\$28 43
1880	182	7,175	153,967 56	21 45
1884	216	8,414	203,234 56	24 15
1888	241	9,756	225,408 57	23 10
1892	284	10,861	266,651 02	24 55
1894	312	11,166	287,137 37	25 72
1896	337	11,957	316,090 83	26 44
1898	364	12,907	345,566 30	26 77
1900	409	13,816	417,554 00	30 22
1901	413	14,144	429,208 22	30 35
1902	417	14,244	427,356 71	30 00
1903	428	14,397	429,554 39	29 84
1904	435	14,454	450,310 44	31 15

COST OF INSTRUCTION IN THE EVENING SCHOOLS.

Year	Elementary	High	Drawing	Total
1900	\$3,375 00	\$1,874 00	\$1,430 00	\$6,679 00
1901	2,777 50	1,551 75	1,205 00	5,534 25
1902	3,218 50	1,682 75	1,298 00	6,199 25
1903	5,000 50	1,683 00	1,428 00	8,111 50
1904	5,708 00	1,577 50	1,345 00	8,628 50

* In accordance with the statutory definition of the support of public schools, the cost of the repair of schoolhouses has not been included in the cost of the schools since 1902 and will not be in the future.

FINANCES.

(For the financial year ending December 1, 1904.)

Cost of instruction in day schools	\$356,406 89
Cost of instruction in evening schools	8,628 50
Cost of care of buildings, day schools	61,215 16
Cost of care of buildings, evening schools	2,475 55
Cost of text-books and supplies, day schools	28,135 04
Cost of text-books and supplies, evening schools	403 23
Expended for care of truants	2,184 43
Expended for flags	105 60
Expended for incidentals	1,942 32
Expended for transportation of pupils	321 00
Expended for vacation schools	1,957 43
Expended on Kelley schoolhouse	789 87
Expended on Fletcher schoolhouse	48,973 55
Expended on Houghton schoolhouse	8,311 75
Expended on Rindge Manual Training schoolhouse	7,144 98
Expended on Washington schoolhouse	4,698 05
Expended for furniture	1,394 32
Expended for permanent improvements	5,999 15
Expended for alterations and ordinary repairs	23,245 68
	<hr/>
	\$564,332 50

Deducting from the above the amount received from the Hopkins Fund, \$687.74, the tuition of State and Boston City Wards, \$937, the tuition of non-resident pupils, \$5,402, the amount received from sales and damages of books, \$633.14, and sales of old materials, \$317.86

7,977 74

The actual cost of the schools to the city is \$556,354 76
 Assessed value of real and personal estates, May, 1904 . . . \$104,827,600 00
 Ratio of expenditure for school purposes to the valuation of 19040053

TABULAR VIEW.

DECEMBER 31, 1904.

Prepared by the Secretary of the School Committee.

Names of Schools	Teachers	Salaries	No. of Pupils Dec. 31, 1904.
Latin.....	William F. Bradbury..... *Theodore P. Adams..... Edwin L. Sargent..... John I. Phinney..... Max Benshimol..... Helen M. Albee..... Constance Alexander..... Mary A. Bachelder..... Alice C. Baldwin..... Almira W. Bates..... Margaret S. Bradbury..... Isabel S. Burton..... Alice D. Chamberlain..... Grace C. Davenport..... Etta L. Davis..... Caroline Drew..... Mary C. Hardy..... Rose Hardwick..... Mabel E. Harris..... Helen W. Munroe..... Louisa P. Parker..... Lena G. Perrigo..... Ethel V. Sampson..... Jennie S. Spring..... †Annie S. Dodge.....	\$3,000 2,000 2,000 2,000 1,800 950 950 950 950 750 750 950 800 700 850 950 950 950 950 950 950 950 950 850 950 600	548
English High.....	Ray Greene Huling..... Joseph A. Coolidge..... Francis L. Bain..... Chester M. Grover..... Grace L. Deering..... Caroline Close..... Bertha L. Cogswell..... Gertrude H. Crook..... Mary L. Cunningham..... Esther S. Dodge..... Agnes B. Goerwitz..... Ellen P. Huling..... Katherine H. James..... Jeannie B. Kenrick..... Maud A. Lawson..... Henrietta E. McIntire..... Mary Moulton..... Lillian C. Rogers..... Caroline A. Sawyer..... Emma A. Scudder..... Florence W. Smith..... Martha R. Smith..... Della M. Stickney.....	3,000 1,700 1,000 1,400 1,200 950 950 950 800 950 900 600 800 850 950 950 950 950 950 950 950 950 950 1,200	569

* On leave of absence in accordance with Section 69 of the Rules of the School Committee.
† Secretary and Librarian.

TABULAR VIEW—Continued.

Names of Schools	Teachers	Salaries	No. of Pupils Dec. 31, 1904.
English High, Continued..	Annie F. Stratton	\$850	411
	*Martha L. Babbitt	600	
Rindge Manual Training...	Charles H. Morse	3,000	
	Myra I. Ellis	1,300	
	Helen W. Metcalf	950	
	Mabel D. Watson	800	
	John E. Denham	1,000	
	Adolph C. Ely	1,100	
	Richard H. Gallagher	1,200	
	Evan W. Griffiths	1,050	
	Lewis D. Hill	1,500	
	James E. MacWhinnie	1,150	
	Edward R. Markham	1,500	
	Joseph M. Norton	1,100	
	Harry E. Rich	850	
	Walter M. Smith	1,200	
	Charles E. Stratton	1,000	
	James G. Telfer	1,500	
	Albert L. Ware	1,300	
	Percy F. Williams	1,000	
	John W. Wood, Jr.	1,500	
	*Myrta E. Smith	600	
Agassiz, { Grammar	Maria L. Baldwin	1,000	{ 147 117
	Edith C. Arey	700	
	Addie B. Byam	700	
	Frances W. Dawson	700	
	Lillian G. Goodwin	700	
	Mary A. Parsons	700	
	Grace C. Stedman	700	
	Agnes L. Tracy	600	
Boardman, Primary	Elizabeth J. Karcher	790	353
	Mabel E. Blake	700	
	Nellie B. Blodgett	600	
	Harriette G. Gilmore	600	
	Blanche M. Gould	450	
	Malvina M. Joslin	700	
	Jennie B. Ross	500	
	Lucy A. Witham	650	
Cushing, Primary	Susan E. Wyeth	760	84
	Margaret E. Sheehan	600	
Ellis, Grammar	Edward O. Grover	2,000	539
	Nellie A. Hutchins	900	
	Caroline L. Blake	800	
	Adelaide G. Bunker	750	
	Emma A. Faulkner	700	
	Harriet Foster	700	
	Lottie L. Griswold	700	
	Louise H. Griswold	700	
	Ellen J. Hunt	700	
	Flora C. Ingraham	700	

* Secretary and Librarian.

TABULAR VIEW — Continued.

Names of Schools	Teachers	Salaries	No. of Pupils Dec. 31, 1904.
Continued.....	Ida J. Mahoney	\$500	
	Sarah W. Mendell.....	700	
	Mary A. Stephenson.....	700	
	Josephine C. Wyman	700	
Primary	C. Florence Smith.....	770	160
	Marcia R. Bowman.....	700	
	S. Emma Davis	700	
	Carrie H. Smith	700	
r, { Grammar.....	George L. Farley.....	1,600	{ 137
r, { Primary.....	Mary I. Chapin.....	650	
	Ellen A. Cheney.....	700	{ 448
	Mary A. Doran.....	700	
	Mary N. Flewelling.....	450	
	Katherine A. Gaskill.....	650	
	Mary Godsell.....	450	
	Elmira F. Hall	700	
	Frances E. Higgins	700	
	Martha B. Perkins.....	550	
	Marion Prescott.....	700	
	Susan L. Senter.....	700	
	Eva A. Taylor.....	700	
	Emma G. Wentworth.....	550	
t, Primary.....	Mary A. Rady ...	775	176
	Annie M. Billings.....	700	
	Margaret F. Sanderson.....	650	
	Gertrude T. Sullivan.....	600	
Primary.....	Frances E. Pendexter	810	450
	Charlotte A. Callahan.....	650	
	Katherine L. Dolan.....	700	
	Mary L. Dolan.....	700	
	Minnie A. Doran	700	
	Kate A. Hegarty.....	700	
	Katherine L. McElroy.....	700	
	Julia G. McHugh	700	
	Mary E. Mulloney	700	
	Anastasia Peters	700	
	Nora E. Reardon.....	650	
d, Grammar.....	Thomas W. Davis.....	2,000	704
	Margaret B. Wellington.....	900	
	Nellie A. Coburn	750	
	Annie M. Street.....	750	
	Addie L. Bartlett.....	700	
	Winifred V. Cobb.....	700	
	Frances Fabyan.....	700	
	Margaret M. Fearn.....	700	
	Estella J. French.....	700	
	Mary F. Hill.....	450	
	Annie B. Lowell.....	700	
	Josephine MacDonald	700	
	Wattie M. Nash.....	700	
	Laura L. Parmenter.....	700	

TABULAR VIEW — Continued.

Names of Schools	Teachers	Salaries	No. of Pupils Dec. 31, 1900
Harvard, Continued.....	Louise C. Patterson.....	\$700	
	Annie L. Prince.....	650	
	Elizabeth L. Setchell.....	700	
	Hortense O. Young.....	700	
Holmes, Primary.....	Catherine M. Doran.....	650	65
	Abby S. Taylor.....	500	
Kelley, { Grammar.....	Everett L. Getchell.....	2,000	{ 392
{ Primary.....	H. Warren Foss.....	1,000	{ 302
	Ella S. Danforth.....	900	
	Anna W. Browning.....	450	
	Josephine Day.....	700	
	Maude M. Dutton.....	700	
	Lucy M. Fletcher.....	700	
	Carrie M. Ford.....	500	
	Jennie C. Hardy.....	700	
	Emma J. Houlahan.....	600	
	Ellen A. Kidder.....	700	
	Catherine A. McLean.....	700	
	Mary E. Moran.....	450	
	Ethel I. Murch.....	700	
	Eva G. Oakes.....	700	
	Esther D. Paul.....	700	
	Carrie L. Power.....	700	
	Mary E. Regan.....	700	
Lassell, Primary.....	Frances E. Whoriskey.....	765	141
	Rose V. Collier.....	700	
	Mary E. Whoriskey.....	700	
Lowell, Primary.....	Eusebia A. Minard.....	765	75
	Agnes J. McElroy.....	700	
Merrill, Primary.....	Louise W. Harris.....	785	260
	Julia M. Davis.....	650	
	Henriette E. de Rochemont.....	700	
	Daisy E. Haynes.....	650	
	Marion B. Magwire.....	700	
	Gertrude S. Thayer.....	500	
	Nellie F. Walker.....	700	
Morse, { Grammar.....	Mary A. Townsend.....	2,000	{ 547
{ Primary.....	Mary E. Towle.....	900	{ 226
	Marcia E. Riddlon.....	800	
	Ida J. Holmes.....	750	
	Ella T. Arnold.....	450	
	Elizabeth J. Baldwin.....	700	
	Edith M. Carman.....	450	
	Christina R. Denyven.....	700	
	Florence L. Gould.....	450	
	Ida M. Holden.....	650	
	Florence E. Hunter.....	700	
	Alice E. May.....	700	
	Helen Montague.....	650	
	Anna A. O'Connell.....	700	

TABULAR VIEW — Continued.

Names of Schools	Teachers	Salaries	No. of Pupils Dec. 31, 1904.
Continued.....	Ella M. Pinkham..... Elizabeth H. Richards..... Mary E. Sawyer..... Lucy M. Soule..... Bertha J. Waldron..... Mary E. Warren.....	\$700 700 700 700 550 700	
Primary.....	Ellen N. Leighton..... Frances Allen..... Anna E. Callahan..... Josephine M. Doherty..... Luella M. Marsh..... Anna N. Sullivan..... Margaret Sullivan..... Ellen C. Walsh.....	785 700 700 700 700 600 700 700	276
Primary.....	Mary A. Knowles..... Lillian M. Cuddy..... Mattie S. Cutting..... Harriet R. Harrington..... Agnes Marchant..... Mary E. Mullins..... Mary E. White.....	780 450 700 700 700 500 550	246
{ Grammar.....	Frederick S. Cutter.....	2,000	{ 366 181
{ Primary.....	Charlotte A. Ewell..... Mabel R. Coombs..... Susan C. Allison..... Anna F. Bellows..... Katherine L. Carr..... Grace LeBaron Esty..... Ruth D. Foxcroft..... Helen E. Hazard..... Martha A. Parker..... Bertha L. Stratten..... Isadore M. Thompson..... Dora Trefethen..... Alice M. Tufts.....	900 800 700 700 700 600 500 700 650 500 700 700	
Grammar.....	Frederick B. Thompson..... George B. Colesworthy..... Eliza M. Hussey..... Eliza S. Paddack..... Grace Clark..... Mary A. Carmichael..... Anna L. P. Collins..... Sarah M. Grieves..... Hattie L. Jewell..... Annie B. Josselyn..... Nellie A. Kerrigan..... Mary A. Macklin..... Katharine I. Nicolson..... Margaret T. O'Keefe..... Annie A. Trelegan..... Minnie F. Wilson.....	2,000 1,100 900 800 750 700 700 700 700 700 500 550 700 650 700 650	643

TABULAR VIEW — Continued.

Names of Schools	Teachers	Salaries	No. of Pupils Dec. 31, 1904.
Reed, Primary.....	Margaret T. Burke..... Elizabeth G. Nelligan..... Julia A. Robinson..... Clara W. Ruggli.....	\$770 700 700 650	157
Riverside, Primary.....	Elizabeth A. Tower..... Amanda M. Alger..... Mary A. Burke.....	770 700 700	149
Roberts, Grammar.....	W. Mortimer MacVicar..... Sara A. Bailey..... Emily R. Pitkin..... Susan M. Adams..... Beatrice Bennett..... Mary Blair..... Elizabeth M. Breslin..... Mary M. Brigham..... Susan L. Keniston..... Evelyn B. Kenney..... Ada M. Litchfield..... Nina M. Marsh..... Clara E. Phinney..... Ida G. Smith..... Caroline M. Williams.....	2,000 900 750 700 450 700 600 700 700 700 700 700 550 700 700	574
Russell, { Grammar..... { Primary.....	Arthur C. Wadsworth..... Mary S. Bingham..... Carrie J. Allison..... Fannie P. Browning..... Ella E. Buttrick..... Mary A. Connelly..... Louise F. James..... Anna M. Lyons..... Louise I. MacWhinnie..... M. Ursula Magrath..... H. Maud McLean..... Gertrude E. Russell.....	2,000 800 700 700 700 700 450 550 500 650 700 700	{ 354 { 105
Shepard, { Grammar..... { Primary.....	Evelyn J. Locke..... Mary F. Calnane..... Alice M. Gage..... Mary M. Gilman..... Theresa H. Mahoney..... Ellen O'Keefe..... Annie E. Welch..... Florence E. Worthing.....	900 700 700 700 700 600 500 650	{ 184 { 132
Sleeper, { Grammar..... { Primary.....	A. Estelle Ingraham..... Emily Bissell..... Butella E. L. Conland..... Evelyn M. Dormer..... Elizabeth O. Haynes..... Melissa M. Lloyd..... Margaret E. Quinn..... Blanche C. Trefethen.....	900 700 700 700 650 700 600 700	{ 131 { 181

TABULAR VIEW — Continued.

No. of Schools	Teachers	Salaries	No. of Pupils Dec. 31, 1904.
Primary.....	Emma J. Young.....	\$770	194
	Florence J. Alley.....	700	
	Carrie P. Pierce.....	700	
	Anna H. Welsh.....	600	
Grammar.....	Ella R. Avery.....	950	131
Primary.....	Mary A. Boland.....	700	
	Bridget T. Boyle.....	700	
	Lillian M. Canty.....	700	
	Lillian W. Davis.....	550	
	Elizabeth B. Gahm.....	700	
	Cecilia F. Leahy.....	700	
	Mary A. Maguire.....	500	
	Eleanor M. Stevens.....	550	
	Mabelle S. Welsh.....	650	
Grammar.....	Ruel H. Fletcher.....	2,000	535
	Harriet A. Townsend.....	900	
	Laura A. Westcott.....	750	
	Flora E. Cooter.....	550	
	Jennie W. Cronin.....	550	
	Grace W. Fletcher.....	700	
	Margaret J. Griffith.....	550	
	Harriet M. Hanson.....	700	
	Enlalia L. Herald.....	650	
	Lillian H. Kenney.....	600	
	Edith M. O'Brien.....	450	
	Ellen M. Plympton.....	700	
	Mabel A. Short.....	600	
	Lydia A. Whitcher.....	700	
Grammar.....	John W. Freese.....	2,000	448
	Blanche E. Townsend.....	900	
	Alice P. Fay.....	750	
	Grace S. Beckwith.....	600	
	Katherine F. Callahan.....	550	
	Mary I. Ellis.....	700	
	Katharine M. Greene.....	450	
	Winifred L. Kinsley.....	700	
	Emma Penney.....	700	
	Margaret J. Penney.....	700	
	Bessie H. Pike.....	700	
	Hattie Shepherd.....	700	
Grammar.....	John D. Billings.....	2,000	770
	H. Herbert Richardson.....	1,000	
	Alice C. Phinney.....	900	
	Martha N. Hanson.....	800	
	Ada A. Billings.....	750	
	Mabel T. Ashley.....	700	
	Charlotte M. Chase.....	700	
	Fanny F. Curtis.....	700	
	Susan I. Downs.....	700	
	Gertrude B. Duffy.....	650	
	Josephine Hills.....	700	
	Gertrude I. Johnson.....	700	

TABULAR VIEW — Continued.

Names of Schools	Teachers	Salaries	No. of Pupils Dec. 31, 1904.	
Webster, Continued	Minnie V. Reid.....	\$700		
	Harriette E. Shepard.....	700		
	Olive L. Slater.....	700		
	Maud A. Sumner.....	700		
	Ellen F. Watson.....	700		
	Katherine L. Wight.....	700		
Wellington, { Grammar....	Herbert H. Bates.....	2,500	{ 443	
{ Primary	Sarah J. Gunnison.....	1,000	{ 278	
	Margaret Kidd.....	1,000		
	Mary I. Vinton.....	1,000		
	Carrie H. Stevens.....	900		
	Grace F. Chamberlain.....	700		
	Training Class	7,953		
Willard, Primary	Katharine E. Hayes.....	810	529	
	Agalena Aldrich.....	550		
	Sally N. Chamberlain.....	700		
	Elizabeth M. Crowley.....	600		
	M. Elizabeth Evans.....	700		
	Ella F. Gulliver.....	700		
	Julia S. Gushee.....	700		
	Mary E. G. Harrington.....	700		
	Katherine M. Lowell.....	700		
	Mary A. O'Hara.....	700		
	Belle Menard.....	700		
	Eliza D. Watson.....	700		
	Grace R. Woodward.....	700		
Wyman, Primary.....	Addie M. Bettinson.....	730	219	
	Maria J. Bacon.....	700		
	Mary H. Brooks.....	700		
	Georgianna P. Dutcher.....	700		
	Genevieve S. Flint.....	700		
	Agnes Smith White.....	650		
Kinder- gartens	Boardman.....	Mary B. Pratt.....	700	53
		Hattie P. Russell.....	600	
	Corlett	*Sarah S. Wells.....	700	41
		Annie M. Dodd.....	600	
	Gannett	Carrie E. Shepherd.....	700	51
		Marion L. Akerman.....	600	
	Gore.....	Selma E. Berthold.....	700	58
		Freedrica Mark.....	500	
	Holmes	Clara A. Hall.....	700	16
	Lowell.....	Melinda Gates..	700	35
		Annie L. Crane.....	500	
	Merrill.....	Caroline A. Leighton.....	700	55
		Gretchen K. Hager.....	600	
	Peabody.....	Julia L. Frame.....	700	50
		Irene L. Phelps.....	450	
Riverside.....	Edith L. Lesley.....	700	57	
	Olive M. Lesley.....	600		

* Died Jan. 16, 1905.

TABULAR VIEW — Concluded.

Names of Schools		Teachers.	Salaries	No. of Pupils Dec. 31, 1904.
Idertens	Shaw	Harriette E. Ryan.....	\$700	62
		Leonice S. Morse.....	600	
	Sleeper	Mabel S. Adams.....	700	57
		Caroline E. Simpson.....	600	
	Taylor	Mary F. Leland.....	700	61
		Della E. Cabot.....	550	
	Wellington	Gertrude M. Gove.....	700	44
		Florence Rice.....	600	
	Willard, A. M... ..	Alice V. McIntire.....	700	51
		Anna M. Gage.....	550	
	Willard, P. M... ..	Jennie S. Clough.....	700	51
		Eva C. Katon.....	500	

TEACHERS OF MUSIC — Agnes Gordon	\$700
Alice H. Nay	600
Nancy T. Dawe	600
DIRECTOR OF MUSIC — Frederick E. Chapman	2,000
ASSISTANT IN MUSIC — Georgia E. Martin	850
INSTRUCTOR OF DRAWING — Peter Roos	2,000
ASSISTANT IN DRAWING — Lucia N. Jennison	800
INSTRUCTOR OF NATURE STUDY — Sarah E. Brassill	1,000
INSTRUCTOR OF PHYSICAL TRAINING — Sara E. Boudren	950
INSTRUCTOR OF PHYSICAL TRAINING IN THE HIGH SCHOOLS — Bessie W. Howard	800
SUPERINTENDENT — Francis Cogswell	3,500
SUPERVISOR OF PRIMARY SCHOOLS — Mary A. Lewis	1,300
PERMANENT SUBSTITUTE IN PRIMARY SCHOOLS — Mary A. Driscoll	450
ASSISTANT IN PRIMARY SCHOOLS — Hattie A. Thayer	550
AGENT — Sanford B. Hubbard	2,100
CLERKS — Althea B. Frost	750
Sadie E. Kimball	600
RECTOR — John Lemon	600
QUANT OFFICERS — Lucian S. Cabot	1,000
John Carmichael	1,000
William H. Porter	1,000
Thomas F. Riley	1,000

SUMMARY.

Number of pupils in the Latin School	548
Number of pupils in the English High School	569
Number of pupils in the Rindge Manual Training School	411
Number of pupils in the Grammar Schools	7,045
Number of pupils in the Primary Schools	5,760
Number of pupils in the Kindergartens	742
Total	15,075
Number of pupils belonging to the public schools December 31, 1903	14,935
Increase of pupils, 1904	140
Increase of pupils, 1903	188
Increase of pupils, 1902	253
Increase of pupils, 1901	62
Increase of pupils, 1900	332
Increase of pupils, 1899	314
Increase of pupils, 1898	476
Increase of pupils, 1897	422
Increase of pupils, 1896	714
Increase of pupils, 1895	250
Increase of pupils, 1894	278
Average annual increase of pupils from 1894 to 1904 (inclusive)	312

COST OF INSTRUCTION.

Schools and Officers	Cost of Instruction	Average Number of Pupils	Cost per Pupil
Latin School	\$26,275 50	487	\$53 95
English High School	27,070 83	556	48 69
Rindge Manual Training School	23,167 16	315	73 55
Training School (Teachers)	14,976 34	755	19 84
Grammar Schools (except Training School)	131,448 91	6,280	20 93
Primary Schools (except Training School)	89,637 88	5,371	16 69
Kindergartens	18,932 77	690	27 43
Teachers of Sewing	1,900 00	....	....
Directors of Music	2,815 00	....	....
Directors of Drawing	2,730 00	....	....
Director of Nature Study	1,000 00	....	....
Directors of Physical Training	1,635 00	....	....
Substitute Teachers	1,784 25	....	....
Superintendent	3,500 00	....	....
Supervisor of Primary Schools	1,230 00	....	....
Agent	2,100 00	....	....
Clerks	1,450 00	....	....
Truant Officers	4,000 00	....	....
Porter	600 00	....	....
Tuition of Cambridge pupils in Belmont Schools	153 25	....	....
Total	\$356,406 89	14,454	\$24 66

Cost of instruction in Evening High School	\$1,577 50
Cost of instruction in Evening Elementary Schools	5,708 00
Cost of instruction in Evening Drawing Schools	*1,343 00
Total	\$8,628 50

* The Director of Drawing is principal of these schools. No part of his salary has been included in this amount.

REMARKS ON THE STATISTICS.

The number of pupils registered in the day schools during the year ending June, 1904, is 16,257; the average number belonging, 14,454; the average daily attendance, 13,361. In the per cent of attendance there has been an increase of four-tenths of one per cent. The number belonging to the schools in December, 1903, was 14,935; in December, 1904, 15,075; an increase of 140. The cost of instruction, which includes the salaries of teachers, superintendent, supervisor, agent, clerks and truant officers, is \$356,406.89. The total cost of the day schools which, in accordance with the statutory definition of the support of schools, includes the cost of instruction, of text-books and supplies, of incidental expenses, of the care of truants, of the care of schoolhouses and of the transportation of pupils, is \$450,310.44.

The average attendance at the evening schools during the school year 1903-1904 was 822, an increase of 99, and the number of teachers, including the principals, was 69. The total cost of these schools, which includes the salaries of teachers, the cost of text-books and supplies, of fuel, light and the salaries of janitors is \$11,507.28.

While Cambridge expends a large amount for her schools, there are *two hundred thirty-five* towns and cities in the State which make a larger expenditure in proportion to their wealth. In a list of the thirty-three cities, arranged numerically according to the percentage of their taxable property appropriated to the support of public schools for the year 1903-1904, Cambridge is the *twenty-eighth*. In a list of the towns and cities of the State, arranged numerically according to the sum appropriated for each child in the average membership of the public schools, Cambridge is the *forty-second*.

These statistics relating to the schools of the State are taken from the sixty-eighth annual report of the secretary of the State Board of Education.

TEXT-BOOKS AND SUPPLIES.

At a meeting of the Board in December the committee on supplies submitted a detailed report of the expenditures of that committee for the year. The report is as follows:—

In accordance with Section 30 of the Rules of the School Board, the Committee on Supplies submits its twentieth annual report, it being for the year ending July 1, 1904:—

Stock on hand July 1, 1903	\$5,675 79	
Purchases and expenditures to July 1, 1904	24,286 32	
		\$29,962 11
Cash sales and damages	558 14	
Delivered to schools, officers, etc.	22,765 70	
		23,323 84
Stock on hand July 1, 1904		\$6,638 27

The purchases and expenditures have been :—

For text-books	\$10,756 46	
Desk and reference books	262 96	
Copy books	689 33	
Apparatus and furnishings	2,391 57	
Printing, \$196 00; expressage and labor, \$361.64	557 64	
Repairing books, \$387.69; diplomas, \$218.14	600 83	
Tuning pianos	43 75	
Miscellaneous supplies, etc.	8,644 95	
		\$23,947 49
Less the value of exchanges		1,212 86
		\$22,734 63

The net cost of text-books and supplies is as follows :—

Stock on hand July 1, 1903	\$5,675 79	
Bills paid by City Treasurer	22,734 63	
		\$28,410 42
Less stock on hand July 1, 1904	\$6,638 27	
Cash paid to City Treasurer, sales and damages	558 14	
		7,196 41
We have, net cost of all schools and officers		\$21,214 01

or an average cost per pupil of \$1.468. The average cost per pupil per annum for twenty years has been \$1.275.

The annual cost per pupil for text-books and supplies since the introduction of the free text-book law is as follows :—

Year	Cost per Pupil	Year	Cost per Pupil	Year	Cost per Pupil
1885	\$1.880	1892	\$1.149	1899	\$1.225
1886	1.170	1893	1.109	1900	1.740
1887	1.051	1894	1.243	1901	1.203
1888	1.068	1895	1.152	1902	1.400
1889	0.960	1896	1.436	1903	1.306
1890	1.334	1897	1.094	1904	1.468
1891	1.248	1898	1.268		

The cost of each grade of schools for text-books and supplies is as follows :—

	Net Expenses	Cost per Pupil				
		1904	1903	1902	1901	1900
Latin School.....	\$1,547 27	\$2.177	\$3.463	\$3.990	\$3.935	\$6.804
English High School....	2,309 15	4.153	3.564	3.641	4.236	4.642
Manual Training School.	3,098 32	9.836	16.791	11.564	11.707	13.515
Training School, Teachers	786 76	1.042	.664	.707	.704	.....
Grammar Schools.....	5,727 00	1.397	1.070	1.152	1.068	1.747
Mixed Schools.....	4,744 54	1.342	.907	1.140	.933	1.573
Primary Schools.....	1,771 78	.441	.379	.528	.431	.396
Kindergartens.....	291 34	.422	.428	.630	.329	.692
Evening Schools.....	403 23	.....	.....	.....	.....	.....
Special Teachers.....	74 63	.....	.....	.....	.....	.....
Officers of Board.....	52 92	.....	.....	.....	.....	.....
Miscellaneous expenses (not chargeable to any grade).....	431 02	.....	.....	.....	.....	.....
	\$21,237 96					
Less profit on sales.....	23 95	.....	.....	.....	.....	.....
	\$21,214 01	\$1.468	\$1.306	\$1.400	\$1.203	\$1.740

The foregoing tables show that the expenditures for text-books and supplies have increased during the year 1903-1904 above those of the previous year by \$0.162 per pupil, and above the average for twenty years by \$0.193.

The greater part of this increase is in the expenditures for text-books, and is due to the introduction of the new series of geographies, grammars and readers in place of the old. The net cost of the geographies recently introduced into the lowest grades in which they are used respectively, is \$2,031.33; and of grammars, \$1,375.35. The cost of the McGuffey readers introduced this year is \$589.45.

The Latin school shows a decrease in the net expense. The English high school shows an increase in the cost of text-books and apparatus and furnishings. The Rindge manual training school shows a decided decrease from last year, because of the purchase last year of six machine lathes.

The grammar and mixed schools show an increase of \$0.381 per pupil due almost entirely to the introduction of new books, and the primary schools show an increase of \$0.062 per pupil due to the same cause.

The largest increase in purchases is for text-books, \$3,545.37. Other items showing increase are desk and reference books \$39.73, copy books \$14.50, printing \$34.50, diplomas \$17.51, and tuning pianos \$19.50.

The items showing decrease in cost are apparatus and furnishings \$182.55, expressage \$68.95, repairs to books \$287.02, and miscellaneous supplies \$725.63.

The appropriation made by the city council has not warranted the purchase of the two sloyd outfits recommended last year, and necessary if the provisions of the statutes for manual training in all grades are to be complied with. The pianos in the Riverside and Sleeper schools are not suitable for the work and should be replaced. A piano is needed in the Fletcher school hall, and this school will also require considerable expenditure for maps, charts and desk books in the near future.

It is expected that the Houghton school will be ready for occupancy at the opening of the schools in September, 1905; but this will not require a full equipment as it is understood that the furniture of the Washington school will be moved to that school.

The large increase in the number of pupils in the Rindge manual training school will make it necessary to increase the equipment of that school. A request for a special appropriation for this purpose should be asked for from the city council.

The number of pupils in the schools November 1, 1904, was 15,076, an increase of one hundred twenty-four over last year. There is an increase of one hundred thirty in the high schools, ninety-four of these being in the Rindge manual training school, while there is a decrease in the primary schools, owing to the opening of parochial schools. This increase in the more expensive grades will tend to increase the average cost per pupil still more in the future.

Taking the cost per pupil at \$1.275, the average cost for the past twenty years, it will require \$19,220 for the usual supplies for the schools for the coming year. To this should be added \$650 for sloyd outfits for two schools, \$550 for three pianos, \$500 to complete the introduction of geographies and grammars, making a total of \$20,920. An appropriation of \$21,000 should be asked for for the regular school supplies besides that which is needed for the equipment of the Rindge manual training school.

CHANGES IN TEXT-BOOKS.

The following is the rule relating to the changes in text-books:—
“All propositions for changes in text-books shall be made by the superintendent. Whenever he recommends a change he shall appoint two persons, one of whom shall be a teacher in the service of the city, who shall make written reports on the merits of the books recommended. These reports and a like report by the superintendent shall be kept on file in the office of the superintendent, open to inspection by members of the Board

only. All changes of text-books recommended to the Board shall be referred to the committee on text-books."

Under this rule the following text-books have been adopted by the Board during the year 1904.

For use in the high schools, Harper's Text Edition of the Anabasis, A Term of Ovid, Le Tour de la France, and Government in State and Nation.

For use in the grammar schools, Carpenter's Geographical Readers, and Stepping Stones to Literature.

For use in the primary schools, Wheeler's Primer, and First and Second Readers.

SCHOOL ACCOMMODATIONS.

The following is from the report of the committee on schoolhouses:—

In accordance with Section 30 of the Rules of the School Board, the Committee on Schoolhouses respectfully submits the following report:—

At a meeting of the Board in June it was voted that the Dunster, Sargent and Stearns schoolhouses be abandoned for school purposes.

The Dunster was sold to the society of St. Peter's church and has been fitted up and is occupied by a parochial school. The amount received was \$6,500, and it was voted by the city council that this should be expended for improvements and permanent repairs to school buildings. The Sargent and Stearns have not been disposed of.

The Fletcher schoolhouse on Elm street was completed and occupied, in September, the teachers and most of the pupils of the Sargent and Stearns schools being transferred to it. Thirteen rooms are occupied, thereby relieving the crowded condition of the Roberts, Kelley and Wellington schools.

The arrangement of classes in all of these schools has been very difficult as the buildings are so near each other that many children are compelled to pass one or another of them on their way to their own schools, causing much dissatisfaction to parents and pupils.

The total cost of the Fletcher school is:—

For Land	\$11,259 75
The building	57,129 12
Architect's fees	3,162 86
Heating and ventilation	7,577 00
Plumbing	4,327 50
Furniture	4,585 89
Fence, grading, sidewalks, etc.	1,821 05
Miscellaneous	1,433 13
	<hr/>
	\$91,285 80

The "Mill Pond Lot" on Bancroft and Gilmore streets which had been selected for a site for a schoolhouse proved to be unsuitable for this purpose and land was bought for the Houghton schoolhouse at the corner of Putnam avenue and Magee street. The foundations are now in and it is expected that the building will be ready to be occupied in September next. The building is to be a reproduction of the Peabody schoolhouse except in the construction of its roof. The appropriation for land and building is \$100,000, the land costing, in round numbers, \$9,000. The contract price for the building is \$67,067, not including architect's fees, heating, plumbing or grading.

The rapid increase in the number of pupils in the Rindge manual training school made it necessary to build an addition to the forge shop which with the necessary equipment cost \$7,278.79. Should this increase continue, as it undoubtedly will, the school will require the whole of the Washington schoolhouse in the near future. It now occupies five rooms in that building besides every nook and corner of the original building.

In accordance with suggestions of this committee to the superintendent of public buildings many extensive repairs and improvements have been made on the several buildings, and it is to be regretted that the thorough renovation of the basement of the Rindge manual training school was not included. It is hoped, however, that this will be made during the next summer vacation.

The following table taken from the report of the superintendent of public buildings shows the total expense for the care and repairs of the school buildings:—

For Janitor service	\$36,739 11
Janitors' supplies	1,578 57
Extra help	2,008 59
Fuel	20,914 69
Gas and electric lighting	2,454 75
Furniture	1,394 32
Repairs to buildings, etc.	23,245 68
	<hr/>
	\$88,330 71

JANITORS.

Section 31 of the city charter provides that "The mayor shall appoint the janitors of schoolhouses, subject to confirmation by the school committee, and may remove them at pleasure for cause assigned; and such janitors shall perform their duties under the direction of the school committee."

Under the direction of the committee on schoolhouses, the agent supervises and directs the work of the janitors, and reports to the commit-

tee such matters as seem to need consideration. The principals of the schools report each month whether or not the work is done in a satisfactory manner.

The following is from the report of the committee on schoolhouses :—

The improvement in the work and spirit of the janitor service noted last year has continued under the able management of Mr. John J. Roach, the head janitor, who has supervised the improvements in plumbing, heating and ventilation.

Messrs. Roach, Hughes, McDonald and the truant officers have been appointed constables.

SERVICE ENDED — COMMITTEE — TEACHER

In Memoriam

JAMES FRANK WENTWORTH

April 12, 1904

Member of School Committee

1903 — 1904

SARAH S. WELLS

January 16, 1905

Assistant Gore Kindergarten

1894 — 1897

Principal Corlett Kindergarten

1897 — 1905

PLAN OF THE SCHOOL REPORT.

For many years the subject matter and arrangement of the statistical part of the school reports have remained essentially unchanged. This has been done because statistics become increasingly valuable when continued on the same plan from year to year. For several years, with the exception of last year, the reports have also contained certain definite information relating to the organization and conduct of the schools, such as is frequently sought by parents and persons interested in school affairs. This has enabled the superintendent to answer many letters of inquiry by simply mailing a school report.

Last year the report was of an historical character and for the purpose of saving space the specific information relating to the organization and conduct of the schools was omitted. This year the usual plan is followed:

LATIN SCHOOL.

The following table shows the membership of the Latin school and the cost of instruction from year to year for five years :—

December	Average Number of Pupils	Number of Teachers in December	Cost of Instruction	Cost per Pupil	Number of Graduates
1900.....	404	22	\$21,819 00	\$54 01	39
1901.....	468	22	23,710 34	50 66	56
1902.....	465	24	25,236 00	54 27	62
1903.....	474	24	25,472 00	53 74	49
1904.....	487	24	26,275 50	53 95	50

The cost of the Latin school to the city is less than the above sums by the amount received for the tuition of non-resident pupils. The amount received this year was \$1,144.

The course of study is arranged for five years, or for four years, and is almost wholly decided by the requirements for admission to Harvard University. Ten per cent of all the graduates have completed the work in four years. The following is the rule relating to the admission of pupils to the high schools :—

“Pupils who have received the diploma of a grammar school may, on recommendation of the master, be admitted to either high school without an examination. For other persons who desire admission, an examination shall be held at the beginning of the autumn term under the direc-

tion of the superintendent, but pupils who are qualified to join existing classes may be admitted at any time on application to the principal. No pupil from any grade in a grammar school shall be examined who does not present a satisfactory certificate of having pursued the required studies during the summer vacation."

From three-fourths to four-fifths of the graduates are usually recommended for admission without an examination. About one-half of the remaining part study during the summer vacation, as required by the rule, and take an examination in September. Pupils who pass a fairly good examination are permitted to attend either high school until the Christmas vacation, at which time their connection with the school as regular pupils ends unless their work has been satisfactory.

Diplomas of graduation signed by the mayor and the head master of the school are awarded to pupils of the high schools who have successfully completed the course of study or its full equivalent, and have sustained a good character.

For non-resident pupils the tuition is \$80 a year, payable in advance, — one-half at the beginning, and the other half at the middle of the school year. The sessions of the school begin at 8.30 A. M., and end at 1.30 P. M.

ENGLISH HIGH SCHOOL.

The following table shows the membership of the English high school and the cost of instruction for five years:—

Year	Average Number of Pupils	Number of Teachers in December	Cost of Instruction	Cost per Pupil	Number of Graduates
1900	514	24	\$25,250 50	\$49 13	68
1901	517	24	26,265 58	50 80	60
1902	498	24	26,747 51	53 71	86
1903	493	24	27,109 83	54 99	73
1904	556	24	27,070 83	48 69	76

This school has for its object the preparation of its pupils for entrance upon active life. It has three distinct courses of study. The plan of the courses is that all pupils in the school shall pursue substantially the same subjects for their first year, but thereafter shall have increasingly divergent studies, open to choice within reasonable limitations and determined largely by aptitude and expectation of subsequent career.

The general course provides a broad, liberal training for boys and girls who expect to end their academic education with the high school,

and includes all subjects which are required for preparation to enter the State normal schools. All who propose to become teachers in grammar or primary schools should take this course.

The commercial course is designed to combine with studies which cultivate the mind in a broad way certain others which give special power in processes needed in business life. Bookkeeping is provided in the second year, shorthand and typewriting in the third and fourth, and economics in the fourth. This course should be taken by those boys and girls who expect to enter a commercial career.

The domestic science course is intended for those girls who, while gaining culture of mind, wish also to train the hand in arts that are needed constantly in the home. In the second year they work in wood with tools suitable to their strength and take up dressmaking. In the third year they learn cooking by theory and practice. In the fourth year they continue their cooking, and deal with the preserving of fruits, with sanitation, and with other problems of household economy.

The requirements for admission to this school and the rules relating to the granting of diplomas are the same as for the Latin school.

For non-resident pupils the tuition is \$80 a year, payable in advance, — one-half at the beginning, and the other half at the middle of the school year. The sessions of the school begin at 8.30 A. M., and end at 1.30 P. M.

RINDGE MANUAL TRAINING SCHOOL.

The following table shows the membership of the manual training school and the cost of instruction from year to year for the past five years: —

Year	Average Number of Pupils.	Number of Teachers in December	Cost of Instruction	Cost per Pupil	Number of Graduates
1900	192	14	\$17,825 73	\$92 84	16
1901	191	14	17,988 33	94 18	21
1902	242	15	19,108 67	78 96	23
1903	262	16	21,125 50	80 63	38
1904	315	19	23,167 16	73 55	30

The cost of the manual training school to the city is less than the above sums by the amounts received from Harvard University for the instruction of a class of students during the summer vacation, and for the tuition of non-resident pupils. The amount received this year from both sources was \$4,130.

The course of instruction covers four years. An effort is made to give proper emphasis to the academic features of the course, and to make that work interesting and effective by bringing it into intimate relation with instruction in the mechanic arts.

The manual dexterity and the thorough knowledge of tools, machinery, and mechanical processes acquired in the shops, at an age when time can be most easily spared for such training, is of inestimable value in any scientific pursuit.

The sessions are five and one-half hours a day, instead of five as in the other high schools. About one-third of the time is given to the work of manual training, and the remainder to the subjects usually taught in high schools, with the exception of Latin and Greek.

The requirements for admission to this school and the rule relating to the granting of diplomas are the same as for the Latin school.

For non-resident pupils, the tuition is \$150 a year, payable in advance, — one-half at the beginning, and the other half at the middle of the school year. The sessions of the school begin at 8.30 A. M., and end at 2 P. M.

The following is from the report of the committee on high schools : —

In accordance with Section 30 of the Rules of the School Board, the Committee on High Schools respectfully submits the following report : —

The principal matter of interest during the last year was the changes in the courses of study in the various schools. The change in the Latin school was of a minor character and was only expected to result in a more even division of the work. That for the manual training school was more considerable and was made with a view to the increased efficiency of the school. At the English high school the changes were more extensive and sweeping, but it is too soon yet to form an opinion of the effect in either of the schools.

The committee would call the attention of the Board to the decreasing number of boys in the entering classes of the English high school. There is an undoubted tendency among both parents and pupils towards including manual training in the course of study in the high school for such scholars as do not intend to take the classical course. If this is the result of a well-defined conviction and is along the lines of general improvement in educational matters, it is undoubtedly the duty of the committee to accommodate itself to the desires and views of the citizens. The logical result of such a course would seem to be an ultimate disappearance of boys from the English high school. By the changes of study, the committee provided a commercial course as well as a general course which should be useful to boys who do not desire either a classical or a manual training course. Whether such boys will come to the

high school in increasing numbers in years to come as a result is at present problematical. All that can be said is that the present year showed no indication of such being the case. It should be borne in mind, however, that probably the pupils who entered this year in a very large majority of cases had already made up their minds as to their further education before the changes in the course of study were decided upon by the committee.

The teaching force in the high schools remains much the same, as might naturally be expected. The high school committee would call the attention of the Board, however, to the fact that this year as in previous years, some of our more experienced teachers have left us to accept similar positions elsewhere at higher salaries. In spite of the increase of salary which is granted to many of the teachers in the high schools from year to year, the committee should recognize the fact that Cambridge pays lower salaries for male teachers in its high schools than teachers receive elsewhere. This, coupled with the fact that Cambridge is looked upon as a place to find good teachers with some experience and that our teaching force may be said to be continually under inspection by superintendents and principals from other places, means that we shall constantly lose from our more experienced and promising teachers, and shall be obliged to recruit our forces from younger and more inexperienced men. The committee does not mean to suggest any remedy or to infer that any remedy is possible for this state of affairs; neither is the committee prepared to say that such a state of affairs is altogether undesirable.

The committee would call the attention of the Board to the fact that the increase of pupils in the Rindge manual training school required the employment of three additional teachers in this school. Experience has shown that in this particular school, the employment of male teachers is very desirable, and all three of the additional teachers selected were men. The result of this policy, however, is to increase the expense of the school, and the Board should understand that the manual training school is now by far the most expensive school in the city. The expense per pupil in this school is something like fifty per cent larger than in either of the other high schools.

The great increase in the number of pupils at the manual training school made necessary an enlargement of the forge shop which involved some changes in the boiler room and a general rearrangement of the forges and blowers. The delay in completing this work caused a great deal of confusion at the beginning of the school year, but the results will be very satisfactory. The number of pupils this year is even greater than was expected and the probable growth of the school during the next few years demands a large increase in the accommodations. As the Wash-

ington school building, one-third of which is now used by the Rindge manual training school, will be entirely given up for grammar school purposes as soon as the Houghton schoolhouse is ready for use, this committee has planned a readjustment of the classes, which will require some additional apparatus in each of the shops. Attention should be called to the dangerous and unhealthy condition of the basement of the old building where the lockers and toilet rooms are placed.

This committee wishes to suggest the desirability of utilizing the plant at this school in the evening. The demand for an evening manual training school is strong, and with the successful opening of such a school in Springfield, Massachusetts, under Mr. Warner, formerly one of our masters, and the use made by the young men from Cambridge of the evening trade school in Boston where a fee is charged, the time seems to have come for the opening of a manual training department as a part of our free evening school system.

The high school committee has continued the course in physical training for girls on substantially the same lines as laid down last year. The committee believes this course to be very beneficial in that it regulates to a large degree the athletic exercises of the girls. The condition of affairs in the schools with regard to athletic exercises is much more satisfactory than it was before the employment of a teacher. The gymnasium, however, is still without apparatus, and the committee feels that the value of the courses in physical training now given could be greatly increased at a small expense.

Without desiring to trespass upon the duties of the committee on schoolhouses, the high school committee would again call attention to the condition of the English high school. Some improvements were made during the summer vacation, but many of the rooms are still in poor condition.

MANUAL TRAINING IN OTHER SCHOOLS.

The statutes require that every town and city of twenty thousand or more inhabitants shall maintain, as part of both its elementary and its high school system, the teaching of manual training. The Rindge manual training school gives the required instruction to boys of the high school grade, and provision is made in the English high school for girls of this grade, sloyd being taught in the second year, and cooking in the third. Sewing in the grammar schools may be considered as meeting the requirement for girls in the grammar grades.

The requirement that manual training shall be taught in elementary schools as well as in high schools has not been fully complied with. Provision has been made for the teaching of this subject in only three of

the grammar schools. The superintendent hopes that in the near future provision will be made for the teaching of manual training in all the grammar schools, as required by statute. The work of manual training in all the schools is under the direction of the head master of the Rindge manual training school.

WELLINGTON TRAINING SCHOOL.

This school was opened in September, 1884, and differs from the other schools in this respect, — all the grades, except the eighth and ninth, are taught by young teachers. Their work, however, is done under the immediate supervision of a master and three assistants, who are held responsible for the instruction and management of the school. For several years the seventh grade has been taught by a graduate of the training class.

The object of conducting a school on this plan is to give Cambridge young women who desire to teach, and who have made special preparation for the work, an opportunity to gain experience under conditions favorable to their own success, and without prejudice to the interest of their pupils.

Graduates of the English high school or of the Latin school, who have also graduated from one of our State normal schools, are preferred candidates for the position of teacher in this school. Other persons of equal preparation may be appointed.

The required term of service is one year. Teachers are appointed on probation, and may be excused or dismissed at any time by the superintendent, with the approval of the committee on the training school.

No teacher is considered a graduate of the school until by vote of the training school committee she is admitted to the graduate class, which is known as class B.

The money compensation for the first three months, and until satisfactory service is rendered, is at the rate of two hundred dollars a year. For the remaining part of the year it is at the rate of two hundred fifty dollars.

Graduates temporarily employed as teachers in this school are paid at the rate of three hundred dollars a year. Graduates selected to act as substitutes in any school are paid at the rate of four hundred fifty dollars.

That the direct influence of the school may be continued, it is the duty of the master, or of one of the supervising teachers, occasionally to visit the schools of the graduates who are teaching in Cambridge. The school contains all the grades of the grammar and primary schools and a kindergarten.

By the rules of the school board the superintendent is authorized to employ as many substitutes and temporary teachers as may be necessary to take the places of absent teachers. These teachers are usually assigned to the training school, when not otherwise employed, that there may be at this school a sufficient number of teachers to make it practicable for the members of the training class to visit other schools.

The following is from the report of the committee on the training school:—

The Cambridge training school for teachers has completed another year of successful work. Its crowded condition has been relieved by the opening of the Fletcher school and the building itself has been repaired and strengthened and the walls and ceilings made more attractive.

No change has been made in the corps of regular teachers and the work of the school is similar in style and character to that done in former years.

Between September, 1903, and September, 1904, twenty-three pupil teachers were admitted to the school. Of these, eleven have completed the required year of service, eight are still connected with the school, and four have severed their connection to engage in other pursuits or to teach in other cities.

The school contains all of the primary and grammar grades and a kindergarten, the number of pupils being about eight hundred.

More than fifty per cent of the present teaching force in our primary and grammar schools, not including the Wellington, are graduates of this school, and it has become such an important factor in the educational machinery of the public school system in the city, that it would be difficult to carry on the work of the schools without its assistance.

GRAMMAR SCHOOLS.

The number of pupils in these grades on the first of December was seven thousand forty-five and the number of teachers, including masters and special teachers, was one hundred eighty-seven.

The cost of instruction for each pupil for the year has been \$20.93. This does not include the cost of supervision or the cost of the Wellington school.

For non-resident pupils the tuition is \$30 a year, payable in advance,—one-half at the beginning, and the other half at the middle of the school year.

The course of study is for six years, but the schools are so classified as to give the pupils an opportunity to complete the course in four years or in five years. The average age of those who entered last September

was nine years eight months. The number of graduates in June was seven hundred eight, their average age being fourteen years ten months. Of these, 5 per cent completed the course in four years, 28 per cent in five years, 52 per cent in six years, and 15 per cent in seven years or more.

Pupils are promoted by classes from the primary schools at the beginning of the autumn term; but individual pupils may be promoted at other times, if it is deemed expedient by the supervisor of primary schools and the superintendent.

Promotions from grade to grade in the grammar schools, and from the grammar to the high schools, are made by the teachers under the direction of the masters and the superintendent. Pupils qualified to join existing classes may be admitted at any time on application to the master of the school. No regular pre-announced examinations are held in these schools, but the results of such written exercises and reviews as the teachers and masters may require from time to time may be used as a part of the basis of promotion.

The thoroughness with which the work is done in the grammar schools is shown in part by the ability of the pupils to do the work in the high schools. The pupils are admitted to the high schools on trial; and, by the rule of the high school committee, any pupil who fails to maintain a suitable rank is reported to that committee, and no pupil thus reported can continue in either high school, except by special vote. For the past four years, however, provision has been made by which these pupils have been allowed to remain in the English high school, and receive such instruction as would best fit them to enter again upon the regular work of the school at its reorganization in September.

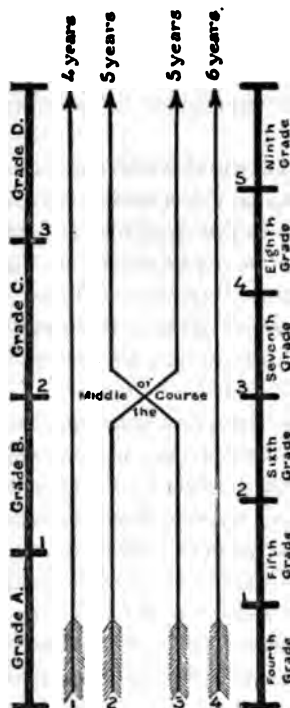
In the grammar schools, special teachers are appointed to help such pupils as seem able to do the work in less than six years, and to aid those who without personal instruction would require more than six years. This action of the committee removes the most serious objection to the graded system of schools.

The course of study is divided in two ways: (1) into six sections; (2) into four sections; each section covering a year's work. Pupils taking the course in six years are classified in six grades, called the fourth, fifth, sixth, seventh, eighth, and ninth grades. Those taking it in four years are classified in four grades, called grades A, B, C, and D. When pupils are promoted to the grammar schools they begin the first year's work together. After two or three months they are separated into two divisions.

One division advances more rapidly than the other, and during the year completes one-fourth of the whole course of study. The other division completes one-sixth of the course.

During the second year the pupils in grade B are in the same room

with the sixth grade. At the beginning of the year they are five months (one-half the school year) behind those in the sixth grade. After two or three months grade B is able to recite with the sixth grade,



and at the end of the year both divisions have completed one-half the course of study — the one in two years, and the other in three years. The plan for the last half of the course is the same as for the first half, the grades being known as the seventh, eighth, and ninth in the one case, and as C and D in the other.

There are also two ways of completing the course in five years: (1) any pupil who has completed one-half the course in two years may at the end of that time be transferred to the seventh grade, and finish the course in three years; (2) any pupil who has completed one-half the course in three years may at the end of that time be transferred to grade C, and finish the course in two years. In both cases these changes can be made without omitting or repeating any part of the course.

It is now thirteen years since the schools were first classified on this plan. During this time seven thousand two hundred eighty-two

pupils have graduated from the grammar schools. Of this number, 7 per cent completed the course in four years, 29 per cent in five years, 49 per cent in six years, and 15 per cent in seven years or more.

Of the number who entered the Latin school during the past ten years, 15.7 per cent did the work in the grammar schools in four years, 45.0 per cent in five years, and 36.3 per cent in six years. Of those who entered the English high school and took the general course, 10.2 per cent did the work in the grammar schools in four years, 40.5 per cent in five years, and 49.3 per cent in six years; of those who took the commercial course in the English high school, 9.1 per cent did the work in the grammar schools in four years, 35.9 per cent in five years, and 55.0 per cent in six years. Of those who entered the Rindge manual training school, 5.5 per cent did the work in the grammar schools in four years, 36.3 per cent in five years, and 58.2 per cent in six years.

Arrow No. 1 indicates the four years' course; grades A, B, C, D. Arrow No. 2 indicates one of the five years' courses; grades A, B, 7, 8, 9. Arrow No. 3 indicates the other five years course; grades 4, 5, 6, C, D. Arrow No. 4 indicates the six years' course; grades 4, 5, 6, 7, 8, 9.

During the past ten years, more than 50 per cent of the pupils entering the high schools did the work in the grammar schools in less than six years, 40.2 per cent doing it in five years, and 11.0 per cent in four years. It does not follow, however, that because so many did the work in less than the full time, the plan is a good one. Its value is shown, rather, by the thoroughness with which the work has been done, not in one year only, but in a series of years. The results of the first year's work in the high schools would seem to be a test of this thoroughness. The records in these schools show that for ten years the average per cent of the pupils who were four years in the grammar schools was higher than for those who were five years in the grammar schools, and that the per cent of those who were five years in the grammar schools was higher than for those who were six years in the grammar schools.

The average per cents of the first year's work in the different high schools for ten years are as follows : —

In the Latin school, the average per cent of the pupils who completed their grammar school work in four years is 80.3; of those who completed it in five years, 75.8; of those who completed it in six years, 72.1.

In the general course of the English high school, the average per cent of the pupils who completed the grammar school work in four years is 78.3; of those who completed it in five years, 75.9; of those who completed it in six years, 73.3.

In the commercial course of the English high school, the average per cent of the pupils who completed the grammar school course in four years is 73.5; of those who completed it in five years, 72.6; of those who completed it in six years, 70.3.

In the Rindge manual training school, the average per cent of the pupils who completed the grammar school work in four years is 73.4; of those who completed it in five years, 69.4; of those who completed it in six years, 67.9.

The following tables will be of interest as showing the results of the first year's work in the high schools of ten classes : —

REPORT OF SCHOOL COMMITTEE.

IN THE LATIN SCHOOL.

RECORD OF TEN DIFFERENT CLASSES	FOUR YEARS IN GRAMMAR SCHOOLS	FIVE YEARS IN GRAMMAR SCHOOLS	SIX YEARS IN GRAMMAR SCHOOLS
First Year in High Schools	Average per cents in High Schools	Average per cents in High Schools	Average per cents in High Schools
Class of 1895.....	78.7	78.9	76.4
Class of 1896.....	80.4	77.0	71.6
Class of 1897.....	79.3	72.5	66.9
Class of 1898.....	77.1	72.3	67.8
Class of 1899.....	80.0	73.0	61.8
Class of 1900.....	81.1	75.9	75.4
Class of 1901.....	79.6	75.2	70.1
Class of 1902.....	81.0	77.5	74.7
Class of 1903.....	83.0	79.1	74.7
Class of 1904.....	81.0	76.6	75.9

IN THE ENGLISH HIGH, GENERAL COURSE.

Class of 1895.....	77.3	76.2	73.4
Class of 1896.....	85.9	75.1	76.4
Class of 1897.....	79.7	78.7	72.2
Class of 1898.....	77.6	75.8	77.0
Class of 1899.....	75.6	75.1	69.1
Class of 1900.....	79.2	73.4	71.1
Class of 1901.....	72.8	75.2	73.2
Class of 1902.....	82.2	75.3	74.3
Class of 1903.....	96.6	77.0	72.7
Class of 1904.....	75.3	76.6	75.4

IN THE ENGLISH HIGH, COMMERCIAL COURSE.

Class of 1895.....	73.7	73.5	69.8
Class of 1896.....	74.8	70.9	68.4
Class of 1897.....	76.3	69.0	69.3
Class of 1898.....	75.7	73.8	69.5
Class of 1899.....	69.5	68.5	68.9
Class of 1900.....	69.2	73.6	72.5
Class of 1901.....	76.0	73.6	70.5
Class of 1902.....	74.9	75.5	73.3
Class of 1903.....	74.3	76.6	70.9
Class of 1904.....	72.7	73.1	69.6

IN THE MANUAL TRAINING SCHOOL.

Class of 1895.....	72.6	65.4	65.9
Class of 1896.....	79.3	63.5	65.2
Class of 1897.....	78.6	67.2	61.7
Class of 1898.....	81.7	69.5	68.9
Class of 1899.....	.....	67.5	67.8
Class of 1900.....	72.6	69.6	68.0
Class of 1901.....	80.0	67.8	68.4
Class of 1902.....	80.4	71.9	69.2
Class of 1903.....	70.4	73.5	70.3
Class of 1904.....	76.2	71.6	68.7

The results already given are based on the first year's work in the high schools. For four years results have been obtained based on the full course in the high schools. During these four years, two hundred seventeen pupils have been graduated from the Latin school. Of these two hundred seventeen, one hundred sixty were graduates of the Cambridge grammar schools. Of these one hundred sixty, twenty-six did the work in the grammar schools in four years, and their average per cent for the Latin school course was 83.9; ninety-two did the work in the grammar schools in five years, and their average per cent for the Latin school course was 76.9; forty did the work in the grammar schools in six years, and their average per cent for the Latin school course was 75.7; two did the work in the grammar schools in seven years, and their average per cent for the Latin school course was 67.8.

During these four years, two hundred ninety-five pupils have been graduated from the English high school. Of these two hundred ninety-five, two hundred forty-four were graduates of the Cambridge grammar schools. Of these two hundred forty-four, twenty-four did the work in the grammar schools in four years, and their average per cent for the high school course was 76.9; ninety did the work in the grammar schools in five years, and their average per cent for the high school course was 76.3; one hundred sixteen did the work in the grammar schools in six years, and their average per cent for the high school course was 75.4; fourteen did the work in the grammar schools in seven or more years and their average per cent for the high school course was 72.7.

These results do not indicate as thorough preparation for high school work as is desirable, but they do show that there are some pupils who can do the same amount of work as others in less time, and do it as well and even better. If it is said that the pupils who spent only four or five years in the grammar schools should have remained longer, it would be equally true that the time should have been lengthened for those who had been in these schools six years.

PRIMARY SCHOOLS.

The number of pupils in these grades on the first of December was five thousand seven hundred sixty, and the number of teachers was one hundred forty-two.

The cost of instruction for each pupil for the year has been \$16.69. This does not include the cost of supervision or the cost of the Wellington school.

For non-resident pupils the tuition is \$20 a year, payable in advance, — one-half at the beginning, and the other half at the middle of the

The course of study is for three years. Children five years old are admitted to the first grade at the beginning of the school year and during the first week in March. Pupils qualified to join existing classes may be admitted at any time on application to the principal. At the present time, 38 per cent of the pupils are in the first grade, 32 per cent in the second, and 30 per cent in the third.

One thousand four hundred forty-four pupils graduated last June at an average age of nine years six months. Of these, 6 per cent completed the course of study in less than three years; 54 per cent in three years; 6 per cent in three years and a half; and 34 per cent in four years or more.

Promotions from grade to grade in the primary schools, and from the primary to the grammar schools, are made by the primary teachers, under the direction of the supervisor of primary schools and the superintendent. Promotions by classes are made annually at the beginning of the autumn term; but individual promotions are made at other times if it is deemed expedient by the supervisor of primary schools and the superintendent.

Pupils are promoted to the grammar schools on trial, and those who show by their work that they are unprepared are returned to the primary schools on the approval of the supervisor of primary schools and the superintendent.

Once a month the teachers of each grade meet the directors of special studies and the supervisor of primary schools. These meetings are held in the English high school building on Wednesday afternoons, half an hour after the close of the schools. The work for the coming month is planned; criticisms and suggestions in regard to methods are made; and questions from the teachers are answered and discussed.

Occasionally specimens of written work from all the pupils are brought for examination. In this way the amount of work done in the schools is made somewhat uniform; new teachers are kept informed as to the requirements, and pupils lose less time when a change of teacher or school becomes necessary.

The supervisor of primary schools writes as follows:—

During the year an effort has been made at the grade meetings not only to lay out the work for the next month, but to get an expression of opinion from the teachers on questions relating to the best interests of the pupils. With this end in view, the teachers have been invited to prepare brief and unsigned statements of their views on various subjects presented to them from time to time.

The best books on reading were first considered, and a decision arrived at as to which were the most useful for teaching and special drill,

d which were better for general reading. The order in which the books might be presented to the class was also considered. From the answers returned a list was obtained which met the general approval of the teachers.

Phonics and materials for desk work were next considered, also the question from what source the most practical course of spelling could be obtained.

The responses to the last query showed that the teachers were unanimously of the opinion that doing a little well was the sure way to success teaching spelling to young pupils.

The old course of study was next considered. The answers, given with great freedom and good nature, not only indicated where the course of study pressed most heavily, but revealed the interpretation put upon some of the directions. The teachers are to consider the new course of study at the January meetings.

The need most felt at present is a number of the best and latest text-books on phonics, language and number for the teacher's desk. Most of the teachers object to any of the mechanical modes of teaching reading, but would be glad to avail themselves of the suggestions contained in several of the recent text-books. The latest ideas on methods in language and number would also be valuable.

In some of the districts need is felt of relieving the primary schools of the children over ten years of age. Many of these children are intelligent but began their school life late. They should be taught in a different manner from the young children and they are in danger of losing their self respect by being classified with others so much younger than themselves.

The librarian of the public library has asked the cooperation of the primary teachers in making the children's room helpful to the younger children. He and his assistant met the teachers and after an interesting talk on this part of the library work, requested that the teachers suggest writing such books as would be desirable to add to the present list.

Great praise is due the teachers for their hearty response to suggestions made in the interest of their pupils; for the generous ways in which they try to make the children's school life attractive, and for the sympathetic manner in which they seek the good will and cooperation of the parents.

KINDERGARTENS.

The number of pupils in the fifteen kindergartens on the first of December was seven hundred forty-two, and the number of teachers was twenty-nine.

The cost of instruction for each pupil for the year has been \$27.43. This does not include the cost of supervision.

To be eligible to the position of teacher in a kindergarten, a person must have had a course in a high school, a course in a kindergarten normal school, a year's experience in teaching either in a kindergarten or a primary school, and must be able to play the piano.

Students in kindergarten normal classes are given opportunities to observe during their two years' course, and are allowed one month's experience in the first primary grade, but it is not deemed expedient for them to observe after graduation.

Teachers in kindergartens are to use their afternoons in visiting the homes of their pupils, with a view of maintaining friendly relations with the parents and of securing regularity of attendance, except when the time is needed for preparation for their work, and they are to make reports on blanks prepared for this purpose. The average number of visits made by both principal and assistant to homes of children is about one hundred fifty.

The following is from the report of the committee on kindergartens:—

From the time of the chairmanship of the Hon. Robert O. Fuller, it has been the aim of the kindergarten committee to add to the number of kindergartens yearly until the needs of the children of the kindergarten age were met. The committee has not yet attained its ideal, but progress has been made.

When the schools opened in September, the Dunster schoolhouse had been sold and such children as did not go to the parochial kindergarten were sent to the Peabody kindergarten. A new kindergarten was opened in the Holmes school and the principal of the Dunster kindergarten was transferred to it.

There is no district in Cambridge that needs a kindergarten so much as the Parker, but as yet it has not been found practicable to vacate a room in the Parker schoolhouse to accommodate a kindergarten.

The monthly mothers' meetings held by the kindergartners are a valuable part of the kindergarten work. These meetings have attracted attention and received honorable mention outside of Cambridge.

The kindergartners are faithful in calling at the homes of the children, and in this way and by the mothers' meetings a most effective co-operation is secured and a lasting work for good is accomplished.

A numerous signed petition from mothers in the vicinity of the Shepard school urges that a kindergarten be opened in connection with that school. As there is a suitable room available in that schoolhouse, the committee thinks it advisable that there be no delay in granting this request.

The following from the address delivered by Madame Ottelia Bondy before the kindergarten department at St. Louis in connection with the Louisiana Purchase Exposition is of special interest:—

“May I be permitted, first of all, to express my deepfelt satisfaction at being privileged to address this distinguished assembly as a delegate from the Association for Kindergartens and Infant Asylums in Austria, my native country?

Austria has the proud distinction of having been the first country in Europe whose government, as early as 1872, regulated the didactic position of the kindergarten as an item of its general plan of education, without, however, making it compulsory as an integral part of the public schools. * * * * *

My associates were much encouraged by what I had to report to them about the admirable Froebel work done in this country when I came home from the World's Fair in Chicago, 1893. Now again, studying your marvelous exhibit in the Palace of Education, and having had the privilege of visiting kindergartens in this town and elsewhere, I shall be able to tell them that you are not flagging in your work, but rather progressing in your labor for the good of the earliest age, about which our great teacher, Froebel, says: ‘It is the most important one for education, because the beginning determines the manner of progress and the end.’

Your beginnings with the little ones are the best example I can take home with me to my country. You teach them to love God and all his creations; you teach them to go back to their homes with loving hearts and to honor the glorious star-spangled banner of their native land, which is just now giving an unparelled example of patriotism and of boundless development to the whole world.

These experiences I shall take back with me as the best gift which one nation can offer to another over the vast expanse of land and sea.”

SPECIAL STUDIES.

The committee on special studies has the supervision of the instruction in nature study, drawing, music, physical training and sewing.

NATURE STUDY.

The work in nature study includes the study of plant and animal life with some study of minerals and of weather phenomena.

The study of plants was first undertaken, and still makes up the larger part of the work. The study of animal life consists mainly of lessons on insects and birds. The mineral work is confined to lessons on common metals and on building stones.

Plants are studied in grades one to four, inclusive; insects in grades one, two, and four; birds in grade four; weather phenomena in grades one to three, inclusive; and minerals in grade four only.

Specimens chosen for study are those in which the pupils have a present interest, and all work is based on present experience. It is kept well within the capabilities of children, yet novel enough to require their best effort. Wherever it can be made to blend with other lines of school work, this is done.

The results sought are increasing knowledge of facts gathered by observation; familiarity with environment; and a growing sympathy with nature.

The following is from the report of the director of nature study to the supervising committee:—

When in 1894 nature study was made a part of the course in Cambridge, we were in touch with the best work that was being done in that line. Since that time, new ideas have come up to be tested and retained or dropped as they proved valuable or otherwise. Cambridge has kept in touch with all good work without following to extremes.

Slight changes in the course of study have been made from time to time as the work grew; they have been mainly changes to adjust the course to the time allowance, not changes in fundamental things, and they have been made gradually.

The best nature work now calls for lessons out-of-doors. During the year classes have been taken out from time to time from sixteen buildings. These outdoor lessons are not required but are voluntary on the part of the teachers. Twenty minutes of study out-of-doors is of more value than twice the time spent with specimens indoors.

Nature study also calls for actual work with seeds planted and tended by students. During the year pupils in every school except one, to the number of several thousands, were planting seeds at home. The plantings were in boxes on roofs and window sills, in flower pots, and in small back yards as well as in places where conditions were more favorable. The results have been varied but always interesting. In this work we owe much to a Boston firm who put up and sold excellent seeds in small quantities at a low price.

Nature study now calls for practical results in the way of improved school grounds. We have gardens in twelve of the school yards and in seven the decoration of the grounds is under way.

Nature work should bring about greater interest in the outdoor life about us. In the fourth grade, where the study of birds is taken up, the children are taught to provide food for the winter birds in order to bring them about the homes; they are taught the story of the brown-tail moth that they may do what children can to lessen its destructiveness.

These are among the newer features of the work. We would gladly make more use of the many parks in the city if some provision for doing so could be made. There is much that could be studied with profit especially by pupils in the more crowded parts of the city. All that we can do for ourselves we wish to do, but we need some help, for instance, for the first working of the soil and the securing of the loam for the school gardens.

In obtaining specimens for indoor work, the teachers are very unequally circumstanced. The specimens are obtained, but often with much expenditure of time and effort. Text-books for the pupils are not needed, but books like Huntington's "Trees in Winter" and Chapman's "Teachers' Manual of Bird Life" with the plates, are desirable, especially in the fourth grade.

DRAWING.

The course of instruction in drawing in the primary and grammar grades includes form; color and designing.

The study of form (pictorial representation) is carried through all the grades upon a plan involving type solids and natural forms of leaves, flowers and fruit. Construction drawing of objects and of simple original ornaments is gradually developed by progressive exercises. Geometrical drawing is introduced in the sixth grade and continued through the advanced grades. Drawing from nature receives special attention during the spring and autumn months.

Color is studied in all the grades, colored tablets being used in the primary grades and water colors in the grammar grades. Harmony and mixing of colors are treated as a science in special exercises; while color skill is artistically expressed in original designs and in nature study.

In design, particular attention is given to subjects involving fundamental principles of symmetry, balance, etc., and to methods of working out simple, specific problems in construction and in decoration.

In the English high school, drawing is a required study the first year, and is carried forward upon a plan of which the following is an outline:—

Drawing from objects and from casts, drawing from nature of plant form, drawing to scale, designing (constructive and decorative), and color harmony.

Drawing, designing, or water-color painting, may be taken as an elective study after the first year. The course of lessons includes landscape, still-life, and advanced designing.

In the English high school, the instruction in drawing is given by the director of drawing and his assistant. In the primary and grammar grades, it is given by the teachers under the supervision of the director

and his assistant. In the Rindge manual training school, there are two teachers of drawing, one of mechanical drawing and the other of free-hand, and the work is done under their immediate instruction.

The following is from the report presented by the committee on special studies:—

The subject of art study is pursued according to the plan adopted by the committee about five years ago. The director of drawing and his assistant divide the work in the schools so that each class in the primary and grammar schools is visited on an average once each month. Two-fifths of the assistant's time is given to the first year's class in the English high school and the remaining three-fifths to the primary schools.

The director of drawing gives the greater portion of his time to the grammar grades, visiting occasionally the primary classes and also giving weekly two hours to advanced classes in drawing and water color painting at the English high school. He supervises the work in the evening drawing schools, and instructs a volunteer class of teachers each Monday evening during the season of the evening schools.

The visits to the primary and grammar classes are for the purpose of inspecting the work done by the children, and also to illustrate the work to be done in the near future. It is important that the children should see the way work in drawing, designing and coloring is done by experts, and this opportunity comes to them through the visits of the supervisor and his assistant.

Besides the illustrations that may be executed before the class, the pupils are frequently treated to an exhibition of finished work, whereby they are enabled to form some idea of standards in workmanship and artistic qualities.

Perhaps no feature in the art course has greater interest for the children than the exercises in color study. Many of the lessons in this course are so connected as to make nature-drawing, designing and geometrical drawing, stepping stones, as it were, to the harmonious finish of some theme involving form, shade values and color.

The elementary science of color is very well covered in a series of exercises in color-mixing and in the several harmonies, as dominant, complementary, analagous and complex, the work necessary to a sound foundation in this subject. The children delight in doing even these unpicturesque diagrams by which is acquired, incidentally, considerable skill in drawing with the brush. The brush is, of course, a drawing tool that is more difficult to manipulate than pencil or chalk, but it is superior to either for some lines of work, and few children can be found that are unwilling to put forth their best efforts in color study. The enthusiasm in the subject is general among the pupils and teachers.

MUSIC.

The National and Educational Courses in Music are used by the regular teachers in the primary and grammar grades under the supervision of the director of music and his assistant. In the high schools it is given by the director. Every pupil who is capable of learning to sing is required to give attention to the subject.

In the Latin, English high and Rindge manual training schools, forty-five minutes a week are given to the study of musical form and expression as found in choruses, quartettes, etc., from the standard operas and oratorios.

Elementary harmony, counterpoint and composition have been introduced as elective studies for the second and first classes, and boys as well as girls having a special aptitude for music naturally elect these studies, the only requisite being some knowledge of the pianoforte. Pupils of the fourth year in the English high school may elect harmony in place of astronomy, and those intending to go to a normal school are advised to take the course in harmony.

The students are instructed in scale formation, intervals, a logical and comparative view of all true chords, in order to give them the power to construct and resolve these chords for themselves.

The study of harmony is carried well into modulation, and of counterpoint through four simple orders or species, including both the major and minor modes. Harvard College has passed a vote allowing a knowledge of harmony to count in an entrance examination to both Harvard College and the Lawrence Scientific school.

Two periods of fifty minutes each week are devoted to instruction, and occasionally the best compositions of the students are sung or played before the entire school, showing in this way the practical side of the work which will prove an important factor in future teaching.

In the Rindge manual training school the young men are taught to sustain their parts without accompaniment in compositions of four part harmony, (first tenor, second tenor, first bass and second bass) the music being selected and arraigned for this purpose.

Fifteen minutes a day in the primary, and ten minutes a day in the grammar grades, are devoted to this study; and pupils in the grammar grades are taught to sing and sustain their parts in reading compositions in two, three and four parts.

Memorizing music is a feature in all the grades, including the high schools, and in all graduating exercises it is expected that the music by the pupils will be sung or played without notes. To this end rote singing in all the schools forms a part of the instruction in reading music.

PHYSICAL TRAINING.

The Ling system of physical training is used in the primary and grammar schools. Seven grades are regularly supervised, the classes of the eighth and ninth grades being supervised only when special request is made by their teachers.

Ten minutes are given each day to the work in the grammar grades and fifteen minutes in the primary grades. The instruction is given daily by the regular teachers in the different class rooms, under the supervision of the director of physical training, who visits each schoolroom as often as time will permit, and who also meets the teachers for special directions from time to time.

During the months of September, October, November, April, May and June, the primary classes have the privilege of out-of-door recesses, gymnastics forming a part of the daily programme during December, January, February and March only.

Games and marching are freely used until the third year, when a stronger emphasis is placed on formal gymnastics. Games are also frequently used in the lower grammar grades.

The essential aim of the teaching is to make the period one of healthful exercise and recreation, and also to counteract in part the tendency to spinal curvatures and flat chests caused by sitting so many hours a day at the school desks.

The following is from the report presented by the committee on special studies:—

The director of physical training urges that more time be given to gymnastic exercises in the grammar schools. Although supervision is not required in the eighth and ninth grades, several of the teachers of these grades have asked for assistance which has been gladly given so far as time would permit. The director again makes the suggestion that the wide corridors or the large basements of the new buildings be utilized for gymnastics. She also suggests that a plan be developed for extending the work permanently into the eighth and ninth grades and making it of such a character as to ensure physical gain and in this way form a link which shall connect the grammar schools with the high schools.

SEWING.

Sewing is taught to the girls of the three lower grades in the grammar schools, and to the boys of the fourth grade who desire the instruction. Forty minutes are given to the work once a week in each grade.

All the boys are learning to sew, the regular teacher having oversight of their work. The first lessons in sewing are spent in learning the use of the thimble and needle, in threading the needle; making knots, and fastening ends. Running stitches are made during this time on ruled pieces of cloth. Neatness is insisted upon from the beginning. Stamped patterns of stars or circles are worked in running stitch by the more forward. Then basting by measure is taught. Measuring cards are provided for this, and the stitches are made one-half inch in length, with spaces of one-eighth of an inch. All work is upon practice pieces, with colored thread. The first piece has three lines for running stitches and two for basting.

The second practice piece is of double cloth and has two lines of basting. On this piece stitching is taught, the children imitating machine stitching as nearly as possible. Two lines are done by all, and four lines by the best sewers, who also stitch their initials in the centre.

For the boys' sake, buttons are brought from home to be sewed on. Strips of cloth for this are basted by those who finish stitching before the others. The shoe button comes first as the simplest, then the two-holed button, then the four-holed. This is the kind of sewing most liked by the boys.

Those who first finish buttons, baste strips for overhanding. This is the last stitch taught in this grade. Those who wish, bring pretty pieces of cloth and make pin-balls. At the end of the year the boys take home all their work. The girls keep theirs for reference the next year.

The work in the fifth grade begins with folding and basting hems, the practice piece having a half inch hem on one edge, and a quarter inch hem on the other. Hemming is practiced until fairly well done, before beginning the model apron of calico, which is then hemmed on the sides and at the bottom.

In January the aprons are laid aside while gathering is taught. The rule for gathering is copied upon paper, and then practised upon cloth, with attention to the proper position of the hands. Stroking the gathers follows, and the new work is then applied to the model apron. The gathers are stitched to the belt, and the apron carefully finished.

Model pillowcases are given to those who have time to make them, which gives a little practice in overcasting.

Those who finish the year's work take home all the practice work of the two years.

During the first term in the sixth grade those who completed the fifth grade work are taught to make buttonholes, while the others finish their model aprons. After vacation all begin together upon darning on canvas. This being finished, they learn to run a thin place in stocking material, and then to darn a hole. When the darning is finished, buttonholes are

taken up again, and then matched patching. Those who have time for extra work practice feather stitching. Throughout the course great care is taken in securing the ends of the thread in beginning, joining and fastening off. The work now requires the services of two teachers besides that of the director.

The following is the course in sewing: *Fourth Grade*. Running, basting, stitching, sewing on buttons, overhanding and making pin-balls. *Fifth Grade*. Hemming, gathering, stroking gathers, model apron, overcasting and model pillowcase. *Sixth Grade*. Buttonholes, darning on canvas, darning a thin place in stocking, darning a hole in stocking and matched patching.

SCHOOL LIBRARIES AND THE PUBLIC LIBRARY.

The English high school has a library of about three thousand volumes. The Latin school has only about one-third of this number. Comparatively few books of a miscellaneous character have been added to these libraries for several years, the public library meeting the demand for such books. The need of the schools is for books of reference and for sets of books for class study.

The grammar schools, with the exception of the Morse and Webster, are not supplied with books for general reading. These are obtained from the public library, and during the year twelve thousand two hundred sixty-four books have been delivered to the schools.

The following is from the report of the librarian to the trustees of the Cambridge public library:—

A vigorous attempt has been made during the last half of the year in the direction of closer coöperation between the work of the library and that of the schools. The most important step in this matter was taken in the appointment in May of a new assistant, Miss Alice O'Brien, a native of Cambridge and a graduate of Boston University, to take charge of the children's room and of the special work of visiting the schools in the interest of the library. As a further means of stimulating interest in this work of coöperation, short, informal talks on the use of the library and of the children's room have been given by the librarian and Miss O'Brien in all of the grammar schools of the city, exclusive of the primary grades.

The results have exceeded all expectations. Not only did the talks seem welcome to the pupils in the schoolrooms, but they induced many to come to the children's room of the main library from long distances, partly to pay it a visit and partly to take out new cards and books. On Saturdays, especially, the children's room has been crowded, and the increased demand for books has left the shelves, at times, almost empty. The need of a larger appropriation to meet this special demand becomes more and more evident.

EVENING SCHOOLS.

This account of the evening schools is given by Mr. Hubbard, the agent of the school committee, who has the general supervision of these schools. The superintendent desires to call special attention to the suggestions in the report that the drawing class which now occupies rooms in the Central square building be transferred to the drawing room of the Rindge manual training school, and also that the Rindge manual training school be opened for evening classes.

There are seven evening schools — two drawing schools, one high school, and four elementary schools. In accordance with the rules of the school board, there are two terms of the evening schools. The first term begins on the second Monday of October, and continues every Monday, Wednesday and Friday evening until the end of the week before Christmas. The second term begins on the first Monday, Wednesday or Friday evening after the opening of the day schools in January, and continues thirty-five evenings. The sessions begin at half past seven and continue two hours. No session is held on the evening of a holiday, or during the vacations of the day schools.

The evening drawing schools are under the supervision of the director of drawing for the day schools. There are two of these schools, one for instruction in mechanical drawing, which occupies four rooms in the Central Square building, and one for instruction in free-hand drawing, which occupies the drawing room in the English high schoolhouse. In the mechanical school two courses are provided,— a three years' course in machine drawing, and a three years' course in architectural drawing. In the free-hand school provision is made for a three years' course in free-hand drawing. Diplomas are given to graduates of either course.

The evening high school is held in the English high school building, and offers a three years' course of instruction in the following subjects: arithmetic, bookkeeping, penmanship, English composition, English literature, civics, history, algebra, geometry, stenography, Latin, French and German. Diplomas are granted to graduates of the three years' course.

The elementary evening schools occupy rooms in four of the grammar school buildings, the Putnam, Roberts, Shepard and Webster. Reading, writing, arithmetic, geography, language, history and bookkeeping are taught in these schools in classes, so far as classification is possible, but a large part of the work is individual. No definite course is arranged, but an opportunity is offered to pupils to prepare to enter the evening high school, and certificates of admission are given to those who are qualified to begin the work in that school. In addition to the subjects given

above, classes in civil service, sewing, dressmaking, millinery, wood working and mechanical drawing are formed when a sufficient number express an intention to take any one of these courses.

The following table shows the attendance of the evening schools for the year 1903-1904:—

	Number Registered	Average Attendance	Average No. of Teachers*	Average No. of Pupils to a Teacher	Number of Graduates
Mechanical Drawing....	113	73	4	18	15
Free-hand Drawing.....	54	29	2	15	6
High School	362	154	10	16	11
Putnam School.....	572	215	18	12	17
Roberts School.....	535	218	17	13	23
Shepard School.....	144	70	7	10	11
Webster School.....	182	63	6	11	15
Total.....	1,962	822	64	13	98

*The principals and curators are not included in these averages.

The following table shows the cost of the evening schools for the year 1903-1904:—

	Cost of Instruction	Cost of Text-books and Supplies	Cost of Light, Fuel, and Janitor	Total Cost	Cost per Pupil
Mechanical Drawing....	\$911 00	\$43 53	\$185 44	\$1,139 97	\$15 63
Free-hand Drawing.....	432 00	19 39	87 83	539 22	18 58
High School.....	1,577 50	48 24	878 30	2,504 04	16 26
Putnam School.....	2,127 50	129 55	554 05	2,811 10	13 07
Roberts School.....	1,979 00	125 33	436 74	2,541 07	11 66
Shepard School	870 50	22 03	127 00	1,019 53	14 56
Webster School.....	731 00	15 16	206 19	952 35	15 12
Total.....	\$8,628 50	\$403 23	\$2,475 55	\$11,507 28	\$14 00

The above tables show that the total registration of the evening schools for the term of sixty-three evenings during the year 1903-1904 was one thousand nine hundred sixty-two, an increase of one hundred eleven over that of the preceding year, and the average attendance was eight hundred twenty-two, an increase of ninety-nine.

The total cost of all the evening schools was \$11,507.28, an increase of \$1,311.01 above that of last year, but the cost per pupil was \$14.00, a decrease of \$0.10 per pupil on the average attendance.

The mechanical drawing school occupied four rooms in the Central square building suitable in no respect for the accommodation of the one hundred thirteen men who were registered. Ten less were registered than last year, but the average attendance for the sixty-three evenings was

seventy-three, an increase of four over the preceding year. Fifteen men received diplomas of graduation from the three years' course, — nine from the architectural course, and six from the course in machine drawing.

If this class could be transferred to the drawing room of the Rindge manual training school, better facilities for the work would increase the value of the school to the members and to the city. Many who register soon drop out because of unfavorable conditions, and this year it was necessary to refuse admission to many because of lack of room.

The free-hand drawing school was held in the drawing room of the English high school. The number registered was fifty-four, eleven young men and forty-three young women, ten less than last year. The average attendance was twenty-nine, the same as the preceding year. Two teachers and a curator were employed, and Mr. Roos, the director of drawing, gave much time to this school and in connection with it he gave instruction to a class of teachers of the day schools every Monday evening.

The evening high school occupied ten rooms in the English high school building and employed eleven teachers and a secretary. The number registered was three hundred sixty-two, one hundred eighty-nine young men and one hundred seventy-three young women, a decrease of seventeen from last year. The average attendance was one hundred fifty-four, a decrease of two. Especial interest was noted in the classes in English, stenography and typewriting, bookkeeping and sloyd.

The Putnam elementary school occupied eight rooms and the hall in the Putnam schoolhouse and employed nineteen teachers. The registration was three hundred ten men and boys and two hundred sixty-two women and girls, one hundred thirty-six more than last year. The average attendance was two hundred fifteen, an increase of fifty-seven for the sixty-three evenings. The notable features of this school were large classes in dressmaking, civil service, and of those who were unable to speak the English language. Excellent work was done.

The Roberts school occupied nine rooms and the hall in the Roberts schoolhouse and employed eighteen teachers. Three hundred seventy-eight men and boys and one hundred fifty-seven women and girls were registered, an increase of thirty-four. The average attendance was two hundred eighteen, an increase of twenty-eight. A very interesting feature of this school was the large class of beginners in English. Classes in civil service, dressmaking and sloyd were also taught.

The Shepard school occupied three rooms in the Shepard schoolhouse and employed eight teachers. Eighty-nine men and boys and fifty-five women and girls were registered, an increase of seven. The average attendance was seventy, an increase of seventeen. The branches of the primary and grammar grades were taught.

The Webster school occupied four rooms in the Webster schoolhouse and employed seven teachers. The registration was one hundred fourteen men and boys and sixty-eight women and girls, a decrease of twenty-nine. The average attendance was sixty-three, a decrease of five. Only the usual branches were taught.

The instruction in sewing has been very successful in the two schools in which it has been taught, the Putnam and the Roberts, as was shown by the exhibition of sewing at the English high school building the last evening of the term.

Devoting the last hour of the session of Friday evenings to lectures has proved popular and has added to the interest and attendance of the schools. Some provision for instructive lectures would be a profitable addition to the evening school educational work. Many cities provide such lectures.

Again the committee would call the attention of the Board to the desirability of opening the Rindge manual training school for evening work for boys who have left school and are learning trades in our shops and factories. That this extensive and costly plant should be in operation only six hours a day seems a waste of opportunity. Other cities have established such evening schools and they have proved a great benefit to many who were deprived of such privileges by being compelled to earn their own living early.

The average attendance at the schools during the first week of the term beginning October 10 last was one thousand two hundred forty-one, an increase of one hundred fifty-three over the corresponding week of last year. A class in sewing has been formed in the Shepard school and increased interest in sewing is noticeable in the Putnam and Roberts schools. In addition to instruction in dressmaking, which was so successful last year, instruction in millinery has been introduced in the Putnam school for those who were in the dressmaking classes last year, and it is proving very successful.

VACATION SCHOOLS.

The following is the report of the committee on vacation schools:—

In compliance with an order adopted April 21, the superintendent submitted a report at the meeting of the Board in May of the number of children wishing to attend the vacation schools which was as follows:—

Ninth grade	.	.	25	Fourth grade	.	.	425
Eighth grade	.	.	68	Third grade	.	.	641
Seventh grade	.	.	131	Second grade	.	.	656
Sixth grade	.	.	302	First grade	.	.	706
Fifth grade	.	.	341				
				Total	.	.	3,295

Only the grammar grades were provided for. Twelve hundred eighty-nine cards of admission were delivered through the schools and about one hundred were given to pupils who came to the office.

All of the schools began Wednesday, July 6, and continued five weeks. The classes in cooking and sloyd at the English high school building were continued six weeks.

The older pupils were taught sloyd and drawing, cooking, dress-making and basketry. The younger ones, reading, drawing and other studies of an interesting and profitable character.

The following table shows the number that joined these classes and the average attendance in each class:—

Schools	Studies	Number Registered	Average Attendance
Rindge Manual Training School	Sloyd and Drawing.....	104	74.1
English High School	Sloyd and Drawing.....	131	71.4
English High School	Academic.....	44	24.9
English High School	Basketry	65	38.0
English High School	Cooking	105	63.5
English High School	Dressmaking.....	58	35.3
Putnam School	Sloyd and Drawing.....	74	52.6
Putnam School	Academic.....	115	78.1
Putnam School ..	Dressmaking	135	80.1
Roberts School	Sloyd and Drawing.....	75	45.8
Roberts School ..	Academic.....	161	98.6
Roberts School	Dressmaking ..	66	35.4
Shepard School	Academic.....	49	25.7
Shepard School.....	Dressmaking	55	29.6
Webster School	Academic.....	37	25.1
Webster School	Dressmaking	35	24.8
		1,309	808.0

The cost of the schools was \$1,836.67 for salaries of teachers, and \$120.76 for supplies. The cost per pupil based on the average attendance was \$2.44

It is recommended that these schools be continued during the next summer vacation and that a suitable appropriation be asked for for this purpose.

TRUANT OFFICERS.

Four officers are employed. The city is divided into four districts, and each officer has assigned to him the schools in one district. Among their duties are the following: to visit each school at least once a day, unless otherwise directed by the agent; to prevent children from loitering about the school premises; to notify the teachers of all cases of con-

tagious and infectious diseases reported by the board of health ; to attend the evening schools when so directed by the agent of the Board to assist in the preservation of order, and to visit places of business where children are employed to see that none are employed unlawfully. They make all complaints for truancy, absenteeism, or school offences at the district court, attend the trials as witnesses, and take boys to the Middlesex county truant school when they are sentenced.

By the rules of the school board the work of the truant officers is done under the supervision of the committee on schoolhouses ; and under the direction of this committee, it is the duty of the agent of the Board to consider all cases of truancy, of persistent violation of the rules of the school, of juvenile vagrancy, of unlawful detention from school, of neglect by parents ; and of any failure on the part of pupils or parents to comply with the rules of the school committee or the public statutes relating to school attendance. It is also the duty of the agent to direct the officers to make complaints ; to certify the records in these cases when presented before the district court ; and to exercise such supervision of the boys who are sent by the court from Cambridge to the truant school as may be allowed under the statutes.

The following is from the report of the committee in charge of the work of the truant officers : —

The four truant officers, Messrs. Cabot, Carmichael, Porter and Riley, have continued to do excellent service as in the past. They have investigated twelve thousand five hundred one cases of absence, seven hundred thirty-nine of which proved to be truancy ; five hundred eighteen, first offence, one hundred seven, second or third offence, and one hundred fourteen, fifth or more offence.

They have entered complaints against thirty boys. Eighteen were sentenced for truancy, five as school offenders, and seven were put on probation by the court. This is eight complaints less than last year.

The parochial schools are coöperating more or less heartily with the officers to prevent the truancy of boys.

The cigarette vice is the worst enemy with which we contend in the matter of truancy. Every boy taken to court bears the stamp of this curse in a greater or less degree. It makes them unreliable at home and at school and saps their physical, mental and moral powers.

At the beginning of the year we had thirty-seven boys in the truant school ; twenty-eight have been discharged and twenty-three sentenced, so that there are thirty-two now at the school from Cambridge.

The city has paid for the board, clothes and schooling of these boys, \$2,184.43, or \$68.26 each for the year, and most of them have been better cared for than would have been possible in the homes from which they

came. Parents, officers, and others who have opportunity to observe, testify that the boys return much improved physically and in general behavior, giving promise of more useful lives.

The school census was taken by the officers and their assistants, and shows that there are seven thousand seven hundred forty-three boys and seven thousand nine hundred thirty-five girls in the city between the ages of five and fifteen years. This is an increase of eighteen boys and one hundred forty-eight girls over last year. The following is the summary of the school census for 1904:—

Number of children in the city between five and fifteen, boys, 7,743;	
girls, 7,935	15,678
Number in public schools between five and fifteen	12,235
Number in private schools between five and fifteen	3,177
Number not attending school between five and seven	121
Number not attending school between seven and fourteen	34
Number not attending school between fourteen and fifteen	111
Whole number not attending school between five and fifteen	266
Number in the city between five and six	1,615
Number in the city between seven and fourteen, boys, 5,510;	
girls, 5,599	11,109

It appears from statistics procured by one of the truant officers that there are twelve private schools in Cambridge which contain three hundred thirty-two pupils and receive \$38,090 tuition money, and five parochial schools having three thousand seven hundred fifteen pupils.

CONTAGIOUS DISEASES.

In 1894 the board of health, in accordance with the request of the school committee, appointed a physician, whose duty it is to examine all cases of contagious diseases reported, and to direct the exclusion from the schools of all pupils whose presence will, in his opinion, be a menace to the health of others. He reports his action on every case to the secretary of the school committee. The physician issues all certificates authorizing such children to return to school, as provided by Chapter 44, Section 6, of the Revised Laws.

As a further precaution against contagious diseases, the board of health established, February 26, 1896, a system of medical inspection of children in the schools. The city was divided into six districts, in each of which a physician was appointed to visit the schools in that district. The duties of these physicians as now defined are as follows: to visit the schools subject to their inspection during the morning session of every school day; to examine such children as are indicated to them by the

teachers; to inspect such other children or such parts of the building as they deem necessary for the protection of the pupils, examining at least one school each day; to recommend to the principals to send home immediately any pupil whom they may suspect of having any infectious or contagious disease, and also, in cases of nearsightedness or deafness of pupils, to advise the parents to have the eyes or ears of such pupils examined. On the first of each month, the physicians send a report of their work to the board of health.

The principal of each school is required to read the following at the beginning of each term in all the rooms under his charge:—

“Any teacher or pupil who visits any apartment in which a person has been sick within two weeks, or which has been exposed within that time to contagion of smallpox, varioloid, diphtheria, or scarlet fever, shall not be allowed to attend school until the expiration of two weeks after such visit.”

The agent of the school committee reports that during the year December 1, 1903, to December 1, 1904, the following cases of contagious diseases have been reported by the board of health to the office of the agent, and by the truant officers to the schools:—

Diphtheria	356 cases
Scarlet Fever	1,140 “
Membranous croup	15 “
Measles	493 “

TERMS, HOLIDAYS, AND SCHOOL HOURS.

The school year is divided into three terms,—the autumn, the winter, and the spring term.

The time for beginning the autumn and spring terms, and for closing the winter and spring terms, is fixed annually at the regular meeting of the committee in February. The autumn term ends December 23. The winter term begins on the first school day after that celebrated as New Year's Day.

The holidays are Saturdays Thanksgiving day, with the preceding day and the day following; the twenty-second of February; the nineteenth of April; Memorial day; the seventeenth of June; and in addition to these, for the high schools, Commencement day at Harvard University.

The sessions of the high schools begin at 8.30 A. M., and end at 1.30 P. M. The sessions of the Rindge manual training school begin at 8.30 A. M., and end at 2 P. M. These schools have a recess of half an hour in each session.

With the exception of the Russell school, the morning sessions of the grammar and primary schools begin at 9 and end at 11.45. The afternoon sessions begin at 2 and end at 4, except during the months of November, December, and January, when they begin at 1.30 and end at 3.30. The grammar schools have no outdoor recess. In the primary schools the principal may, at her discretion, substitute an outdoor recess for the period at present devoted to physical training. The sessions at the Russell school begin at 8.30 A. M., and end at 1.30 P. M.

The sessions of the kindergartens are from 9 A. M. to 11.50 A. M.

There are two terms of the evening schools. The first term begins on the second Monday of October, and continues every Monday, Wednesday and Friday evening, until the end of the week before Christmas. The second term begins on the first Monday, Wednesday or Friday evening after the opening of the day schools in January, and continues thirty-five evenings. Vacations and holidays are the same as in the day schools. The sessions begin at 7.30 P. M., and continue until 9.30 P. M.

Teachers to inspect their children in such parts of the building as they deem necessary for the protection of the pupils, examining at least the eyes and ears of the pupils, and the principals to send home immediately any pupil whom they may suspect of having any infectious or contagious disease, and also in cases of nearsightedness or deafness of pupils to advise the parents to have the eyes or ears of such pupils examined. At the first of each month the physicians send a report of their work to the board of health.

The principal of each school is required to read the following at the beginning of each term in all the rooms under his charge:—

"Any teacher or pupil who visits any apartment in which a person has died and within two weeks in which has been exposed within that time to contagion of smallpox, variola, typhoid, or scarlet fever, shall not be allowed to attend school until the expiration of two weeks after such visit."

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The school year is divided into three terms,—the autumn, the winter, and the spring term.

The time for beginning the autumn and spring terms, and for closing the winter and spring terms, is fixed annually at the regular meeting of the committee in February. The autumn term ends December 1, the winter term begins on the first school day after that celebration of Year's Day.

The holidays are Saturdays, Thanksgiving Day and the day following; the twenty-second of April; Memorial day; the seventeenth of May; and for the high schools, Commencement.

The sessions of the high schools begin at 1.30 P. M. The sessions of the Rindge School begin at 8.30 A. M., and end at 2 P. M. There are two sessions in each session.

REPORT OF SCHOOL COMMITTEE.

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With the exception of the Russell school, the morning sessions of the grammar and primary schools begin at 9 and end at 11. The afternoon sessions begin at 2 and end at 4, except during the months of November, December, and January, when they begin at 1 and end at 3. The grammar schools have no holidays except in the summer, when the principal may, at her discretion, substitute an extra session for the school at present devoted to physical training. The sessions of the Russell school begin at 8.30 A. M. and end at 1.30 P. M.

The sessions of the kindergarten are from 9.30 A. M. to 11.30 A. M.

There are two terms of the school year. The first term begins on the second Monday of October and continues until the first Friday evening of December. The second term begins on the first Monday of January and continues until the first Friday evening of March. Vacations occur during the winter and summer evenings. The sessions begin at 7.30 A. M. and continue until 1.30 P. M.



TEACHERS, APPOINTMENTS, RESIGNATIONS.

There are now four hundred thirty-five teachers in the schools, thirty-six of whom have been appointed during the year. Twenty-four have resigned, two have been given leave of absence for rest or for some special reason, one has died, and one is absent for study or travel under the following rule of the school committee:—

“Any teacher who has served in the city for ten years may, on recommendation of the superintendent and vote of the Board, have leave of absence for one year for purposes of study or travel, and may receive one-third of his salary, provided the amount in no case shall exceed five hundred dollars.”

Since the adoption of this rule in 1896, seventeen teachers have had leave of absence for purposes of study or travel,—seven from the high schools, six from the grammar schools, three from the primary schools, and one from a kindergarten.

Among the teachers who have resigned, there are four who have been connected with the schools for a long series of years. Miss Marianne M. Webb began her work in 1864; Miss Lucy C. Wyeth in 1867; Miss Mary E. Nason in 1870; and Miss Emma A. Hopkins in 1872. All of these teachers rendered efficient and faithful service. Special mention should also be made of the work of Mrs. Alice G. Teele. She taught in the Webster school from 1875 to 1882, rendered important service as a substitute teacher in several schools, and in 1897 was appointed master's assistant in the Russell school. At the meeting of the school committee in April, 1904, she resigned her position to accept the superintendency of the Franklin Square House, Boston, a position for which her remarkable executive ability admirably fits her. Her services in the Russell school, however, were retained a part of each day until the close of the school year.

Among the teachers in service, one has been promoted to be a master in a grammar school, one to be a ninth grade teacher, and one to be the principal of a primary school.

This report is for the year 1904, but a death has occurred so near the beginning of the year 1905, that it seems best to make mention of it in this report. Miss Sarah S. Wells, principal of the Corlett kindergarten, died January 16. She was appointed assistant in the Gore kindergarten in 1894, and was transferred to the Corlett kindergarten as principal in 1897. She was an earnest, faithful teacher, and was highly esteemed by all who knew her.

QUALIFICATION OF TEACHERS.

A person to be eligible to the position of teacher in a kindergarten must have had a course in a high school, a course in a kindergarten normal school, a year's experience in teaching either in a kindergarten or a primary school, and must be able to play the piano; to be eligible to a position in a primary or grammar school, he must have had a course in a high school, a course in a normal school, and a year's experience in teaching; to be eligible to a position in a high school, except in the manual training department of the manual training school, he must be a college graduate. Equivalent preparation may be accepted. Preparation for the work of teaching as shown by years of study, and experience as shown by years of teaching, may be considered in fixing the salaries of teachers at the time of their nomination.

Two months after a teacher has been nominated to a position in a kindergarten or any school below the position of principal or master in a high or a grammar school, two experienced teachers who are not connected with the school in which the nominee is to serve, are designated by the superintendent to examine the teacher so nominated, while at work, and they report in writing to the superintendent; these reports, together with the testimonials and other papers relating to the qualifications and character of the teacher so examined and of all other nominees, are kept on file in the office of the superintendent and are open to inspection by members of the Board only.

The committee on teachers considers all nominations made by the superintendent. This committee confers with the superintendent, considers the reports of the examiners designated by him, makes further inquiry at discretion and reports to the Board.

Any nomination referred to the committee on teachers, unless confirmed, lapses at the expiration of six months, not counting the summer vacation. A person who has failed of confirmation is not to be nominated to a similar position within two years, except on the approval of the committee on teachers.

This committee inquires and reports to the Board in executive session as to the success of any teacher in the employment of the city when so requested by any member of the Board or by the superintendent, and no teacher under such inquiry receives the regular increase of salary, except on the recommendation of this committee.

Under the direction of the superintendent, teachers may visit other schools to observe the discipline and instruction. They may be required to attend teachers' meetings or courses of instruction in methods of teach-

ing for one hour a week. Such meetings may be held on Saturday mornings during term time or at such other time, not in school hours, as the superintendent may direct. Meetings in addition to those indicated above may be held by the superintendent or may be called by him, on request of directors in special subjects.

SALARIES OF TEACHERS AND SCHOOL OFFICERS.

LATIN SCHOOL AND ENGLISH HIGH SCHOOL.

Head Masters	\$3,000 00
Masters	2,000 00
Masters' Assistants	1,200 00
Teachers, first year	700 00
with an annual increase of \$50 until \$950, the maximum, is reached.	
Assistant Teachers, first year	500 00
" " second year and each succeeding year	600 00

RINDGE MANUAL TRAINING SCHOOL.

Head Master	\$3,000 00
Master's Assistant	1,300 00
Teachers' salaries range from \$700 to \$1,500.	

WELLINGTON TRAINING SCHOOL.

Master	\$2,500 00
Supervising Teachers (three) first year	900 00
" " second year and each succeeding year	1,000 00
Master's Assistant, first year	800 00
" " second year and each succeeding year	900 00
Teachers of the eighth grade	700 00
Teachers of the seventh grade (one year's experience)	450 00
Teachers of the other grades	250 00

GRAMMAR AND PRIMARY SCHOOLS AND KINDERGARTENS.

Masters of grammar schools	\$2,000 00
Submasters, first year	1,000 00
with an annual increase of \$100 until \$1,400, the maximum, is reached.	
Masters' Assistants, first year	800 00
" " second year and each succeeding year	900 00
Teachers of the ninth grade, first year	750 00
" " " second year and each succeeding year	800 00
Special Teachers in grammar schools, first year	700 00
" " " " second year and each succeeding year	750 00
Principals of primary schools, first year	700 00
" " " " second year and each succeeding year	750 00
with five dollars additional for each room under her supervision.	
Teachers of grammar and primary schools and of kindergartens, first year	450 00
with an annual increase of \$50 until \$700 is reached.	

Assistant teachers, that is, teachers not in charge of a room, are paid \$450 the first year, \$500 the second, and \$550 the third and each succeeding year; and, in the case of assistants in the kindergartens, \$600 for the fourth and each succeeding year.

SUBSTITUTES.

the pay of a substitute teacher in a high school, who is employed temporarily, a day; if employed one month or more, it is at the rate of \$500, \$600 or \$700 a session to be determined by the superintendent, who shall consider the expense of the teacher and the position to be filled, in fixing the sum.

The pay of a teacher who is employed temporarily as a substitute in a grammar school, a primary school, or a kindergarten, is \$1.00 a session; if employed one month or more, it is at the rate of \$450 a year.

SPECIAL TEACHERS AND OFFICERS.

Teacher of Music	\$2,000 00
Assistant Teacher in Music	850 00
Teacher of Drawing	2,000 00
Assistant Teacher in Drawing	800 00
Teacher of Nature Study (three-fifths time)	1,000 00
Teacher of Physical Training	950 00
Director of Physical Training in the High Schools	800 00
Teacher of Sewing	700 00
Teachers of Sewing	600 00
Superintendent of Schools	3,500 00
Director of Primary Schools	1,300 00
Members of the Board	2,100 00
Officers (four are employed)	1,000 00
Secretary of the School Committee	400 00
Members of the School Committee	25 00
Librarian and Librarian of the Latin School	600 00
Librarian and Librarian of the English High School	600 00
Librarian and Librarian of the Rindge Manual Training School	600 00

EVENING SCHOOLS.

Salaries of Mechanical Drawing School, per evening	\$4 00
Salaries of High School	4 00
Salaries of Elementary Schools	3 00
Salaries in Drawing Schools	3 00
Salaries in High School	2 00
Salaries in Elementary Schools	1 50

ENGLISH HIGH AND NORMAL SCHOOL.

In December the number of pupils in the Latin school was five hundred forty-eight, two hundred forty-four boys, three hundred four girls; in the English high school there were five hundred sixty-nine pupils, eighty-nine boys, four hundred eighty girls, and in the Rindge manual training school there were four hundred eleven boys.

It appears that the English high school is now largely a girls' school. In connection with it, would it not be wise to establish a normal training department in which the course of study should be extended two years and be equivalent to that in our State normal schools? This would meet the requirements for admission to the Wellington training school and enable our Cambridge girls to obtain here in Cambridge a thorough preparation for the work of teaching.

The English high school has every facility for this work. It has a chemical department, a department of physics, a commercial department, a domestic science department, and a department in sloyd. The instruction in music and physical training could be extended to cover the instruction given in normal schools, and the director of drawing and the director of nature study could give the instruction in their respective departments.

In addition to this there is no doubt that arrangements could be made with Harvard University by which these pupils could attend one or more courses in the pedagogical department there. The head master of the English high school has special preparation for this work, and there is no question as to the qualifications of the other teachers for the several departments of instruction. The superintendent commends this part of his report to the high school committee.

AN UNGRADED SCHOOL.

Truants and habitual school offenders can be sent to a truant school. Truant boys are not necessarily bad boys, and boys known as habitual school offenders under changed circumstances become responsive to new influences. Years ago before the appointment of truant officers there was a boy in the Putnam school who was frequently a truant, and this had been the case for two years under two different teachers. He came under the charge of a third teacher. It was the practice of this teacher to endeavor to awaken the interest of her pupils in some things outside of the routine work of the school. One day the mother of this boy came to enquire when the next special talk of the teacher would be given, adding that she wished her son to go on an errand which would take him out of

school for a half day and that he was unwilling to be absent on the occasion of one of these special talks. The truant boy had become interested in his work.

A boy in a neighboring town was brought by the superintendent of schools to a teacher who afterwards taught in Cambridge. The superintendent said: "I have brought this boy to you, although he does not belong in your district, for unless you can manage him he must go to the truant school." The teacher received the boy in the right spirit and arranged for his work. A few days later she noticed that something was attracting the attention of the pupils sitting near this boy. She went to his desk and found that he had a bottle containing two or three tadpoles. She reached her hand for the bottle (the boy scowled) and as he gave it to her she said: "I will put it on my desk, and when school is done you can come and get it." At the close of school the boy came for his bottle. The teacher had a pleasant talk with him, and found that he was interested in *things*. "I have a book at home," she said, "that will tell you about many of the things in which you seem to be interested. I will bring it tomorrow." The boy did not go to the truant school.

These are special cases, but connected with the schools all over the city there are boys who are truants from time to time; there are boys who take little or no interest in their work. Nor is it strange that this is so. Many of these boys have no helpful influences at home, in fact, they have no home worthy of the name.

During the past thirty years the question of an ungraded class has several times been under consideration. Five years ago the experiment was tried with a good degree of success in what was then the Allston school, a new school occupying all but one room in the old Allston building. This school increased in numbers rapidly and soon required the whole building for its own use, and the ungraded class was given up.

The superintendent believes that circumstances are now favorable to the establishment of an ungraded class. The Merrill school building and yard afford almost ideal conditions for this purpose. The building contains two unoccupied schoolrooms, an assembly hall, and a room well adapted to sloyd purposes, and it has the largest yard in the city.

It may be said at first that it will not be wise to bring together pupils of an ungraded class and those of a primary school and kindergarten, and this would be true were it the intention to retain in the school for any length of time any pupil who did not respond to its special influences. The large yard could be divided into garden lots and assigned to the care of the different classes. The sloyd room, and the things made there, would be of constant interest to the older pupils, and in many ways the assembly hall could be used to make school life more attractive and profitable.

It costs the city about sixty dollars a year for every Cambridge boy sent to the truant school at North Chelmsford. At the present time there are thirty-two boys from Cambridge connected with this school. If the boys when sentenced were put on probation and sent to the Merrill school, as no doubt the judge would gladly permit, is there any doubt that more than half of them would become interested in their work and not need the special discipline of the truant school. A thousand dollars saved from the expenditure for truants would go far towards meeting the added cost of the Merrill school; but it is not the question of dollars and cents that should be considered, it is the question of saving boys for useful lives.

Is it not wise that this experiment should be tried under these favorable circumstances for success?

RESIGNATION OF THE SUPERINTENDENT OF SCHOOLS.

It seems desirable that the facts relating to the resignation of the superintendent of schools should have permanent record in this report. At the meeting of the school committee April 21, 1904, the following communication from the superintendent was received : —

to the School Committee of Cambridge :

At the meeting of the school committee on the fourth of April, 1854, I was elected temporary teacher of the Putnam grammar school in place of Mr. Lassell who was absent on account of ill health. Mr. Lassell did not regain his health, and at the annual election of teachers on the ninth of August of the same year, I was chosen to fill the vacancy caused by his resignation.

For more than twenty years I served the city as principal of that school. On the third of September, 1874, I was elected to the position which I now hold. I am, therefore, on my thirtieth year of service as superintendent of schools, and have already completed fifty years of service in the schools of this city.

For the past few years I have looked forward to the completion of a school year as the time when my connection with the schools should end. I make this announcement at this early date that the committee may have ample time to consider the qualifications of candidates for this important and desirable position ; and I congratulate my successor in advance, for Cambridge is a city in which teachers superintendent and all connected with the schools are treated with the utmost kindness and consideration by the school committee.

I also take this opportunity to acknowledge the uniform courtesy shown me by the several superintendents of public buildings with whom I have come into close relations.

Respectfully,

FRANCIS COGSWELL,

Superintendent of Schools.

This communication was referred to a special committee of which the president of the Board was the chairman.

Under date of April 29 this committee, through its chairman, sent to the superintendent the following letter : —

to Francis Cogswell, Superintendent of Schools, Cambridge.

DEAR MR. COGSWELL, — In accordance with the following vote, that the chairman be a sub-committee to convey to Mr. Cogswell the expression of the opinion of this committee that it will be for the best

interests of the city that he continue to serve as superintendent of schools for the ensuing year and to urge that he consent to a re-election," which was unanimously adopted, it gives me great pleasure on behalf of the special committee to request most urgently that you reconsider the decision expressed in your letter of April 21, and that you will consent to continue, as superintendent, to care for the interests of the public schools of Cambridge and give them the benefit of the wisdom and experience gained during your long and useful service.

Hoping for a favorable reply, I am,

Yours truly,

WILLIAM TAGGARD PIPER,
President of the School Committee.

In reply to this letter the superintendent under date of May 9, wrote substantially as follows, a part of the letter being omitted:—

Mr. William Taggard Piper, President of the School Committee.

DEAR MR. PIPER,— Your letter informing me of the action of the committee appointed to consider my communication to the school board in regard to my withdrawal from the position I now hold, has received most thoughtful consideration. In reply, let me say in the first place that it is a great satisfaction to me to be assured "that in the opinion of your committee it would be for the best interests of the city for me to continue to serve as superintendent of schools for the ensuing year."

The communication I sent to the Board at the April meeting was written after the most deliberate consideration. In fact the last school report was prepared with special reference to its being my final report.

I appreciate the action of your committee, but I cannot help feeling that it is the appropriate time for me to end my connection with the schools. Your committee thinks otherwise and should its action be approved by the full Board, I shall be willing to continue my work for the present year as superintendent.

Respectfully yours,

FRANCIS COGSWELL,
Superintendent of Schools.

At the meeting of the Board in June the superintendent was re-elected. In accepting the position he presented the following letter which was read and placed on file:—

To the School Committee of Cambridge:

At the April meeting of the Board I made known my purpose of ending my connection with the schools as superintendent at the close of the present school year.

At the request of the committee appointed to consider this communication I reconsidered my decision and consented to serve another year should it be the wish of the school committee. I think it important, however, that it should be distinctly understood that I shall not again be a candidate for re-election.

Thanking the committee for this renewed expression of confidence, I am,

Respectfully yours,

FRANCIS COGSWELL,
Superintendent of Schools.

FIFTIETH ANNIVERSARY.

TWENTY YEARS AS TEACHER . . THIRTY YEARS AS SUPERINTENDENT.

It has been the custom in Cambridge to recognize long service in any department of the city's work. During the past year a banquet was given to Chief Casey of the fire department who had completed fifty years of efficient service and his portrait has been placed in the city hall.

In accordance with this custom the superintendent of schools was given a reception at the close of fifty years of service in the schools of Cambridge. The reception was held in the Latin school hall on the evening of June 27.

The superintendent desires to express his great satisfaction at the arrangements on that occasion, and his appreciation of what was done and said in recognition of his work.

His portrait hangs in the city hall, a picture with which his name is connected although not his gift has been placed in each school building, and in his home there stands a clock whose sweet chimes so long as life lasts will awaken pleasant memories and will bring to mind the many friends who have enriched his life by their kindly acts and words.

In closing this report the superintendent has but one wish to express in regard to the schools — may they prosper in the future even more than in the past!

Respectfully submitted,

FRANCIS COGSWELL,
Superintendent of Public Schools.

REPORT OF THE SPECIAL COMMITTEE FOR THE COGSWELL TESTIMONIAL.

At a meeting of the school committee, held May 10, a special committee was appointed to "arrange for a suitable recognition of the long continued and very valuable services to the public schools of Cambridge rendered by Francis Cogswell who has been superintendent of schools for the last thirty years and has now completed fifty years in educational work in Cambridge." A number of other friends of Mr. Cogswell who had a high appreciation of his services were added to this committee and through their efforts more than fourteen hundred dollars was raised, the teachers in the public schools of Cambridge being among the contributors.

The money was used for a portrait of Mr. Cogswell to be given to the city, for a large carbon photograph, purchased at Mr. Cogswell's suggestion, to be given to each public school, and a hall clock with the following inscription:—

"To Francis Cogswell
Superintendent of Schools
From the Cambridge Teachers
And Other Friends and Neighbors
Through a Committee of His Fellow Citizens
27 June 1904."

On the evening of June 27 a reception was held in the Latin school hall when General Bancroft, on behalf of the committee, presented the gifts to the city and to the schools and they were accepted by the Mayor; President Eliot of Harvard University presented the clock and Mr. Cogswell made a short reply.

It seems proper that a brief report of this mark of the respect and appreciation of his townsmen and fellow workers should be placed on the records of the school committee, and in this connection the committee wishes to quote a minute adopted by the school board June 21, 1900:—

"The members of the school committee, on the completion of the twenty-fifth year of continuous service as superintendent of schools, by Francis Cogswell, tender him their congratulations on this quarter century of loyal, progressive and successful conduct of his office, and wish him many years of further activity. They desire to put on record their appreciation of the earnestness and success of his work, of the progress which the schools have made under his leadership, of the tact and firmness with which he has conducted his manifold duties, and of the good will which he has uniformly won from the teaching staff.

As citizens of Cambridge as well as members of the school committee, they are glad to express publicly their gratitude to him for the service he has rendered to the school system of the city."

AUGUSTINE J. DALY,
WILLIAM TAGGARD PIPER,
SHERMAN RUSSELL LANCASTER,
SETH N. GAGE,
CHARLES H. THURSTON,
J. HENRY RUSSELL,
Special Committee.

The following is a list of the pictures purchased by the committee, and the names of the schools in which they have been placed:—

Notre Dame Cathedral, Paris		Latin School
The Sistine Madonna	<i>Raphael</i>	English High School
St. Peter's, Rome		Rindge Manual Training School
The Fighting Téméraire	<i>Turner</i>	Rindge Manual Training School
Anne Hathaway's Cottage, England		Agassiz School
Shoeing the Bay Mare	<i>Landseer</i>	Boardman School
Baby Stuart	<i>Van Dyck</i>	Boardman Kindergarten
A Distinguished Member of the Humane Society	<i>Landseer</i>	Corlett Kindergarten
Modern Egypt		Cushing School
The Sistine Madonna	<i>Raphael</i>	Ellis School
Sheep. Spring	<i>Mauve</i>	Felton School
The Roman Forum		Fletcher School
Ploughing	<i>Rosa Bonheur</i>	Gannett School
Madonna del Granduca	<i>Raphael</i>	Gannett Kindergarten
The Angelus	<i>Millet</i>	Gore School
Dignity and Impudence	<i>Landseer</i>	Gore Kindergarten
The Holy Night	<i>Correggio</i>	Harvard School
Dignity and Impudence	<i>Landseer</i>	Holmes School
Abraham Lincoln	<i>St. Gaudens</i>	Houghton School
Automedon with the Horses of Achilles	<i>Regnault</i>	Kelley School
Valley of the Touques	<i>Van Marcke</i>	Lassell School
The Bridge at Concord		Lowell School
The Angelus	<i>Millet</i>	Merrill School
Sir Galahad	<i>Watts</i>	Morse School
The Aurora	<i>Guido Reni</i>	Otis School
The Gleaners	<i>Millet</i>	Parker School
The Madonna of the Chair	<i>Raphael</i>	Peabody School
The Capitol at Washington		Putnam School
Dignity and Impudence	<i>Landseer</i>	Reed School
The Return to the Farm	<i>Troyon</i>	Riverside School
Avenue of Trees, Middelharnis	<i>Hobbema</i>	Roberts School
The Holy Family	<i>Murillo</i>	Russell School
Canterbury Cathedral		Shepard School

The Capitol at Washington	.	.	.	.	.	.	.	Sleeper School
The Gleaners	.	.	.	.	<i>Millet</i>	.	.	Tarbell School
The Horse Fair	.	.	.	.	<i>Rosa Bonheur</i>	.	.	Taylor School
By the Riverside	.	.	.	.	<i>Lerolle</i>	.	.	Thorndike School
Arch of Constantine	.	.	.	.	.	.	.	Washington School
The Posts' Corner, Westminster Abbey	.	.	.	.	.	.	.	Webster School
Niagara Falls	.	.	.	.	.	.	.	Wellington School
Cathedral at Amiens	.	.	.	.	.	.	.	Willard School
The Melon Eaters	.	.	.	.	<i>Murillo</i>	.	.	Wyman School

IN SCHOOL COMMITTEE, February 16, 1905.

Ordered, That the report of the superintendent as read and outlined by him be accepted and adopted as the annual report of the school committee for 1904, and that the secretary be authorized to append the names of the members of the committee thereto.

SANFORD B. HUBBARD,
Secretary.

Members of the School Committee for 1904

AUGUSTINE J. DALY, *Chairman ex officio.*

WARREN P. ADAMS.	MARY E. MITCHELL.
GEORGE W. BICKNELL.	WILLIAM TAGGARD PIPER.
CAROLYN P. CHASE.	J. HENRY RUSSELL.
* SETH N. GAGE.	ARTHUR P. STONE.
EDWARD J. KRONAN.	CHARLES H. THURSTON.
SHERMAN R. LANCASTER.	ROBERT WALKER.
JAMES A. LEW.	† JAMES FRANK WENTWORTH.
‡ CHARLES H. WILLIAMS.	

* Resigned Oct. 30, 1904.

† Died April 12, 1904.

‡ Resigned Sept. 15, 1904.

SELECTIONS FROM THE REPORTS OF THE MOSELY EDUCATIONAL COMMISSION TO THE UNITED STATES,
OCTOBER-DECEMBER, 1903.

PAGE 38.

A teacher's business is not to teach so many rules of arithmetic, or so many facts of history, but to build character, to develop mental power, and to this end it is possible, while teaching less, to accomplish more.

PAGE 39.

Education cannot be regarded as successful unless it creates the appetite for knowledge, and if a child leaves school with the thirst for knowledge strong within him he carries with him not only the key to success in after life, but the most priceless gift that a teacher can impart.

PAGE 101.

The efficiency of American schools is due primarily to the professional skill of the teachers. Programmes of study, no matter how well drawn, will never raise education to a high standard unless the teacher is trained for his duties; even an indifferent programme will become effective in the hands of a teacher who is an expert in the arts of his profession. This the American educational authorities realise thoroughly.

PAGE 104.

If I were asked whether the industrial greatness of America is to be attributed primarily to her educational methods I would answer in the negative. America's industry is what it is primarily because of the boundless energy, the restless enterprise, and the capacity for strenuous work with which her people are endowed; and because these powers are stimulated to action by the marvellous opportunities for wealth-production which the country offers. These conditions have determined the character of all American institutions—the schools included. The schools have not made the people what they are, but the people, being what they are, have made the schools.

PAGE 107.

Educational legislation is a matter for each State and is not determined by the national Senate and Congress at Washington. Upon the local community lies the responsibility of educating its own people. The

result of this is that educational institutions, whether elementary or higher, must be in close touch with the aims and ambitions of the community that they serve, or they cannot be allowed to continue to exist. That this condition is in the long run beneficial in an equal degree to the teachers, to the people, and consequently to the institutions, I have no manner of doubt.

PAGE 237.

In many ways the United States has exceptional opportunities for leading the way in new methods of education, and it cannot be denied that the nation is availing itself of its unique advantages. One thing, however, must be borne in mind, and that is that, like our own country, she is still in a stage of transition so far as her educational aims and machinery are concerned. She does not claim to have reached finality in her efforts to educate, or to have perfected any one system. She is just feeling her way towards a new and better method of instruction. But more than we or any European nation have yet done, she has entered upon many novel and interesting experiments which are gradually revolutionising her teaching. More than we, she takes account of the changed conditions in which men live to-day, and seeks to adapt her training to the current need. And more than we, she is thus attempting to solve the new educational problems that are confronting civilised nations.

PAGE 249.

Education in the United States, whatever be the local difference of administration, rests upon the principle that every citizen, male or female, irrespective of class, creed, or fortune, is entitled to equal opportunities, and that it is the business of the State to provide those opportunities by education fitting men and women for life.

PAGE 250.

The teaching in American high schools, as well as their discipline, struck me as more informal and leisurely than in our own. I doubt if they get through as much work as our schools do; nor do I think that a lad of eighteen, in the first class of an American high school, can compare in the extent of his reading or the scholarly finish of his work with boys from the head of Eton, Rugby, or Marlborough. But our great secondary schools cater for a select few, theirs for the whole people. They give an equal chance of a sound education to every boy or girl, irrespective of class, creed, or means; and on the whole they are successful. We claim to provide, not always with success, a superior article for those who can afford to pay for it. They provide fairly well for the intellectual needs

of the average citizen, but, perhaps, hardly enough for the training of special ability. We give a good education — better, I think, than theirs — to the few who can profit by it, but more or less neglect the mass of ordinary minds.

PAGE 255.

What has struck me most forcibly in a short and imperfect survey of a wide field is first of all the attitude of the American people towards public education as a prime necessity of national life, for which hardly any expenditure can be too great; and next, its eminently practical and popular character.

PAGE 257.

The Americans believe in education, and it would hardly be an exaggeration to say that in most parts of the country there is no other question about which they feel so strongly or on the furtherance of which they are so resolutely set.

PAGE 259.

Everywhere I was most favourably impressed with the work of the training schools I visited, and as far as I could judge, the general excellence of the teaching in American schools is largely due to the thorough training most of the teachers have received. In the majority of the States, I was struck with the cultivation and refinement of the teachers, their enthusiasm for the profession, and readiness to better equip themselves for their work by private study, by attending classes throughout the year and summer courses at the universities during the vacation.

PAGE 335.

One cause of the keenness for education in America is the freedom of opportunity which awaits all American citizens who have the ability to rise and are willing to pay the price in industry and training. Every youth, be he the son of the President or the son of the labourer, knows that there is nothing to hinder his advancement to the highest positions in public, professional, or commercial life, except his own personal merit and ability. To attain to these qualities he believes an advanced education is essential, and he is willing, therefore, to do anything to obtain it.

PAGE 378.

The great interest which the people generally take in educational affairs is shown by the manner in which personal assistance is so often rendered to the public schools. In large numbers of instances one is told that many of the pictures, statuettes, and pieces of furniture, etc., have

been given by someone who is interested in the school. Children often give concerts, for which a small charge is made, and the proceeds used for the purchase of some article of school furniture, or apparatus, or of books for the school library.

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I am profoundly convinced of the fact that what has contributed perhaps more than anything else to make the American people so successful industrially and commercially is the intensely democratic character of their educational system. The next most important factor is the eminently practical and useful character of the instruction which is given in all their educational institutions. The American ideal is to produce the most capable citizen, the person who can "do things," rather than the cultured gentleman of leisure.

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The high schools are interesting, both from an economic and a sociological point of view. Only about twelve per cent of all the scholars enrolled in them are preparing for college; all the rest leave school either before completing the school course, or immediately after the secondary school course is finished. Many enter a training college (normal school) in order to prepare for the teaching profession, whilst the others begin active life in some business or other employment. One can trace the influence of the high school training in the manners and capacity of all the young people to be seen at work in the business places and factories in the United States. The actual results of the high school course, great as they are, are not such important factors in a social sense as are the habits of study which have been acquired during the most important period of physical and mental development.

PAGE 113.

Another characteristic of the high school in America is co-education. Boys and girls go through the same curriculum, are taught by the same teachers, and sit side by side in the same class rooms throughout their school careers in nearly all the public high schools. The advantages and disadvantages of this arrangement seem to have been fully discussed and anxiously considered. It is a matter upon which it is practically impossible for the occasional visitor to come to any conclusion that is worth having. I think, however, that one general observation which I believe was made by many of the Commissioners is worth recording, namely, that the relations of boys and girls in and out of school, of men and women students in the universities, as well as of men and women in the everyday

walks of life, appeared to be more natural than in this country. There seemed, for example, to be no difficulty in business houses or in the administrative offices of colleges and universities in having mixed staffs, men and women working side by side without any of the hindrances to work that are heard of over here. That the testimony of the business men on this point was unanimous is shown by the fact that they regarded any question with regard to it with surprise.

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Any survey of American secondary education would be incomplete without a reference to the manual training, which forms an integral part of the systems in the majority of secondary schools in the United States. The connection between mind and hand is recognised there to an extent which preconceived prejudices have hitherto rendered impossible in England. But instead of manual training being confined to those who are to pursue an industrial or engineering career, or to those who are relegated to "shops" merely as a *derniere ressource*, because they are incapable of the abstractions of book learning, in the United States it is regarded in many of the best developed schools as *an integral part of a liberal education*. Its importance in this aspect varies indeed in different States, and in different cities, but everywhere it occupies an honourable place. It is, moreover, graded on carefully thought out systems from the cardboard "modelling" of the kindergarten to the skilled engineering processes in the colleges and universities. Though space forbids me to enlarge on the value of this feature of American education, my report would lack a completeness satisfactory to myself if I did not pause to emphasise my profound sense of the value of manual training as scientifically carried out in the schools of the United States, leading as it does to the happiest results promoting that versatility and alertness which is so characteristic of American workers. It is almost impossible to exaggerate it.

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It is claimed for truly educational handwork that it develops the physical, mental, and moral qualities. It is not so much a subject of instruction as of method. It calls out creative power, and the processes which are passed through, from the conception of a model in the mind to its first being embodied in a working drawing, then to its assuming permanent form in clay or wood, are each healthful, real educational developments of will power, accompanied by that keen sense of pleasure which comes from the act of construction. Manual training also develops individuality; handwork cannot be slurred over in chorus; it must really be

done, each piece and process, under the teacher's eye. We cannot do good handwork without sticking to honesty and truth; we cannot, in manual training, hide or equivocate, or slide over. The good work we do is there, plain for all to see; the faults we have made stand out self-revealed, no outside judgment needs to be called in, and we stand by our own work, justified or condemned. Another most valuable result achieved by educational handwork is, that it not infrequently infuses new life into a child who is dull and who seems to be absolutely irresponsible to the usual educational stimulus of books. Brought into contact with manual work, an aptitude for it is often discovered, the child feels that he is no longer a hopeless dullard, the butt of the class, and the despair of the teacher. He stands henceforth on another plane, and on an equality with his fellows, for if they can beat him with their heads, he can equal or beat them with his hands. To develop in him this self-respect is a gain of inestimable value. In this way a boy's interest is frequently caught and held, his general education is advanced, and he is retained longer in the school.

PAGE 237.

In Britain, owing partly to class and caste distinctions which do not hold to the same extent across the Atlantic, the impression has got abroad that education only spoils the common workman and unfits him for his industrial position. Manufacturers and managers generally seem to look with disfavour upon highly educated youths and college men. At least, they give no preference or encouragement to this class over their more ignorant rivals, and consequently, the youths themselves, finding no advantage in remaining long at school or college, leave early, ignoring the benefits of a knowledge and training which seem to carry them no further forward in the actual business and trade of life.

The attitude in the States I found to be exactly the opposite of this. So far from disparaging education, the American regards it as the chief national asset, and strains every nerve to render it as widely diffused as possible, convinced that the increase of intelligence thus fostered will be a common gain. The educated youth will not only make a better citizen, but he will outstrip his more ignorant fellow in industrial efficiency, and in the long run leave him far behind. The conditions of American life have not permitted her people to ignore so obvious a fact. There are circumstances and forces, as I have indicated, which have thrust upon them more peremptorily than upon us, recognition of the value and necessity of education. Besides the economic fact that the development of the material resources of the country demands the best available intelligence and skill, there are the social and political factors. The nation is a democracy very

pronounced in its views of personal rights and personal liberty, and if it is to govern itself wisely, it must make sure, as far as possible, that its members drawn as they are from all nationalities, are sufficiently welded together and enlightened to make intelligent and safe use of their voting privileges. Widespread popular ignorance would be a constant menace and danger to the stability of the State, as well as to the industrial interests.

In consequence of this more enlightened view of education, manufacturers and employers of labour are more ready to recognise the superiority of the trained student over the untrained artisan, and are everywhere eager to get technically-trained men to direct their work; they show their interest in, and appreciation of, learning by founding and equipping institutes and colleges for the technical training of young men in the various industries; and they further encourage all such institutions by giving the college-trained youths a preference over those who are merely shop-trained.

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The attitude of the most thoughtful Americans is perhaps best summed up in the pregnant phrase of President Roosevelt — "Education will not save a nation, but no nation can be saved without education."

BOOKS OF INTEREST TO TEACHERS.

The following list of books has been prepared by the librarian of the Cambridge Public Library, Clarence W. Ayer, for use by the teachers of the public schools. It is based on that printed in the school report for 1901, but it excludes books written expressly for young people. It is arranged to bring out special topics of teaching, and to include some of the representative aids to teachers in all subjects. Teachers are welcome to consult the books on the shelves in the stack.

EDUCATION, GENERAL.

Ascham. The scholemaster. 1884	370-Aa23
Baker. Education and life. 1900	370.4-B17
Boone. Science of education. 1904	370-B64
Briggs. Routine and ideals. 1904	370.4-B761
———. School, college, and character. 1901	370.4-B76
Butler. The meaning of education. 1898	370.4-B97
Butler, ed. Education in the United States. 2 v. 1900	370.4-B972
Comenius. The great didactic. 1896	370-C73
———. Orbis pictus. 1887	370-C731
Currie. Principles and practice of common school education. 188—	370-C93
Davidson. Rousseau and education according to nature. 1898	370-D28
De Garmo. Interest and education. 1902	370-D36
Dewey. The school and society. 1899	370.4-D51
Button. Social phases of education in the school and the home. 1899	370.4-D95
Eliot. Educational reform. 1898	370.4-El4
Felkin. Introduction to Herbart's science and practice of educa-	
tion. 1895	370.1-F33
Fitch. Educational aims and methods. 1900	370.4-F55
Fletcher, ed. Sonnenschein's cyclopædia of education. 1889	370.3-F63
Hanus. Educational aims and educational values. 1899	370.4-H19
———. A modern school. 1904	370.4-H191
Hart. Studies in American education. 1895	370.4-H25
Henderson. Education and the larger life. 1902	370.4-H38
Herbart. Outlines of educational doctrine. 1901	370-H41
Horne. Philosophy of education. 1904	370.1-H78
Huxley. Science and education. 1894	370.4-H98
Kay. Education and educators. 1883	370-K18
Kiddle and Schem, eds. Cyclopædia of education. 1877	370.3-K53
———. Dictionary of education and instruction.	
Based upon the <i>Cyclopædia of education</i> . 1881	370.3-K532
Locke. Some thoughts concerning education. 1880	370-L79
Lyttelton, and others. Thirteen essays on education. 1891	370.4-L99
McMurry. Elements of general method, based on the principles of	
Herbart. 1903	370.1-M22
Mann. [Life and works of Horace Mann. Ed. by Mrs. Mann.] 5 v.	
1891	370.8-M313
Moncrieff. A book about dominies. 1869	370.4-M74
Montaigne. Education of children. 1899	370-M76
Mullany. Essays educational. By Brother Azarias. 1896	370.4-M91
Page. The rebuilding of old commonwealths. [Southern states.]	
1902	370.4-P14

Payne. Contributions to the science of education. 1886 . . .	370.4-P291
—— Lectures on the science and art of education. 1884 . . .	370.4-P29
Peaslee. Thoughts and experiences in and out of school. 1900 . . .	370.4-P32
Rosenkranz. Philosophy of education. 1893 . . .	370.1-R72
Rousseau. Emile; or, concerning education. Tr. by Eleanor Worthington. 1888 . . .	370-R7652
—— Emile; or, treatise on education. Tr. by W. H. Payne. 1893 . . .	370-R7651
Schwickerath. Jesuit education. 1903 . . .	370-Sch98
Spalding. Education and the higher life. 1890 . . .	370.4-Sp16
—— Means and ends of education. 1901 . . .	370.4-Sp163
—— Opportunity, and other essays and addresses. 1900 . . .	370.4-Sp162
—— Thoughts and theories of life and education. 1901 . . .	370.4-Sp164
Spencer. Education, intellectual, moral, and physical. 1898 . . .	370-Sp3
Tarver. Debateable claims: essays on secondary education. 1898 . . .	370.4-T17
—— Some observations of a foster parent. 1899 . . .	370.4-T171
Tate. Philosophy of education. 1883 . . .	370.1-T18
Walker. Discussions in education. 1899 . . .	370.4-W15

HISTORY OF EDUCATION.

Balfour. Educational systems of Great Britain and Ireland. 1898 . . .	370.9-B19
Boone. Education in the United States. 1889 . . .	370.9-B64
Compayré. History of pedagogy. 1883 . . .	370.9-C73
Cubberley. Syllabus of lectures on the history of education, with selected bibliographies. 2 v. 1902 . . .	370.9-C89
Davidson. Aristotle and ancient educational ideals. 1892 . . .	370.9-D28
—— Education of the Greek people, and its influence on civilization. 1894 . . .	370.9-D281
Dexter. History of education in the United States. 1904 . . .	370.9-D52
Hailman. Twelve lectures on the history of pedagogy. 1874 . . .	370.9-H12
Kemp. History of education. 1901 . . .	370.9-K32
Laurie. Historical survey of pre-Christian education. 1895 . . .	370.9-L37
—— Studies in the history of educational opinion from the renaissance. 1903 . . .	370.9-L371
Monroe. Source book of the history of education for the Greek and Roman period. 1901 . . .	370.9-M75
Munroe. The educational ideal. 1895 . . .	370.9-M92
Painter. History of education. 1893 . . .	370.9-P16
Quick. Essays on educational reformers. 1890 . . .	370.9-Q4
West. Alcuin and the rise of the Christian schools. 1892 . . .	370.9-W52
Woodward. Vittorino da Feltre and other humanist educators. 1897 . . .	370.9-W87

TEACHING AND METHODS.

Abbott. The teacher. 1884 . . .	371-Ab2
Barnett. Common sense in education and teaching. 1899 . . .	371-B261
Barnett, ed. Teaching and organisation. 1897 . . .	371-B26
Beale, and others. Work and play in girls' schools. 1898 . . .	371-B36
Blakiston. The teacher: hints on school management. 1879 . . .	371-B58
Brooks. Normal methods of teaching. 1887 . . .	371.3-B79
Compayré. Lectures on pedagogy. 1890 . . .	371-C73
De Garmo. The essentials of method. 1899 . . .	371.3-D36
—— Herbart and the Herbartians. 1896 . . .	371.4-D36
Dodd. Introduction to the Herbartian principles of teaching. 1898 . . .	371.4-D66

Fitch. Lectures on teaching. 1887	371-F55
Fröbel. The education of man. 1892	371.4-F92
Herbart. A B C of sense-perception, and minor pedagogical works. 1896	371.4-H41
Hill. Seven lamps for the teacher's way. 1904	371-H55
Hinsdale. Art of study. 1900	371.3-H59
Hughes. Fröbel's educational laws for all teachers. 1898	371.4-H87
——— Mistakes in teaching. 1889	371-H87
Johonnot. Principles and practice of teaching. 1891	371-J66
Kiddle, and others. How to teach. 1877	371.3-K53
Landon. Principles and practice of teaching and class management. 1894	371-L23
——— School management. 1903	371-L231
McMurry and Morton. Method of the recitation. 1903	371.3-M229
Page. Theory and practice of teaching. 1885	371-P14
Parker. Notes of talks on teaching. 1891	371-P221
Patrick. Elements of pedagogics. 1895	371-P27
Pestalozzi. How Gertrude teaches her children. 1894	371.4-P43
——— Leonard and Gertrude. 1885	P437L
Pinloche. Pestalozzi and the foundation of the modern elementary school. 1901	371.4-P65
Prince. Courses and methods. 1886	371.3-P93
Putnam. Manual of pedagogics. 1895	371-P98
Rosenkranz. Pedagogics as a system. 1872	371-R72
Salmon. Art of teaching. 1898	371-Sa3
Schæffer. Thinking and learning to think. 1901	371-Schf
Search. An ideal school. 1901	371-Se1
Swett. Methods of teaching. 1880	371-Sw4
Thring. Theory and practice of teaching. 1883	371-T41
Tompkins. Philosophy of school management. 1895	371-T59
White. Elements of pedagogy. 1886	371-W58
——— School management. 1893	371.5-W58
Wilson. Pedagogues and parents. 1904	370.4-W69
Wyman. Progress in school discipline. 1867	371.5-W98

ELEMENTARY EDUCATION.

Aber. An experiment in education. 1897	372-Ab3
Arnold. Waymarks for teachers. 1895	372-Ar6
Comenius. School of infancy. 1893	372-C73
Currie. Principles and practice of early and infant school education. 1887	372-C93
George. The plan book. Intermediate grades. 3 v. 1899-1900	372-G29
——— The plan book. Primary. 3 v. 1897-98	372-G291
Malleson. Notes on the early training of children. 1897	372-M29
National educational association. Report of the committee of fifteen on elementary education. 1895	372-N21
Oppenheim. Development of the child. 1898	372-Op5
Warner. The nervous system of the child. 1900	372-W241
——— Study of children, and their school training. 1897	372-W24
Willis and Farmer. Month by month books. 3 v. 1904	372-W67

KINDERGARTEN.

Barnard, ed. Kindergarten and child culture papers. 1884	372.2-B25
Bates. Kindergarten guide. 1897	372.2-B31

Blow. Letters to a mother on the philosophy of Froebel. 1899	372.2-B621
—— Symbolic education: a commentary on Froebel's "Mother play." 1894	372.2-B62
Boston collection of kindergarten stories. 4th ed. 1904	372.2-B65
Froebel. Education by development: the second part of the <i>Pedagogics of the kindergarten</i> . 1899	372.2-F921
—— Mottoes and commentaries of Friedrich Froebel's "Mother play." 1895	372.2-F9212
—— Pedagogics of the kindergarten. 1895	372.2-F92
—— Songs and music of Friedrich Froebel's "Mother play." 1895	372.2-F9211
Gregory. Practical suggestions for kindergartners, primary teachers, and mothers. 1893	372.2-G86
Hailman. Kindergarten culture. 1873	372.2-H12
Harrison. Study of child-nature from the kindergarten standpoint. 1892	372.2-H24
Hubbard, comp. Merry songs and games for the use of the kindergarten. 1887	372.2-H86
Kriege. The child, its nature and relations: an elucidation of Froebel's principles of education. 1872	372.2-K89
Lindsay. Mother stories. 4th ed. 1903	372.2-L64
Marenholtz-Bülow. The child and child-nature. 1894	372.2-M33
Poullsson. Holiday songs and every day songs and games. 1904	372.2-P86
—— In the child's world. 1893	372.2-P861
—— Nursery finger plays. 1893	372.2-P862
Riggs. Children's rights. 1892	372.2-R44
Riggs, ed. The kindergarten. 1893	372.2-R441
Riggs and Smith. Froebel's gifts. 1895	372.2-R4411
—— Froebel's occupations. 1896	372.2-R4412
—— Kindergarten principles and practice. (The republic of childhood, v. 3.) 1896	372.2-R4413
Shirreff. The kindergarten at home	372.2-Sh61
—— The kindergarten: principles of Fröbel's system and their bearing on the education of women. 1889	372.2-Sh6
Smith. Children of the future. 1898	372.2-Sm6
Walker. Varied occupations in string work. 1896	372.2-W151
—— Varied occupations in weaving. 1895	372.2-W15
Walker and Jenks. Songs and games for little ones. 1887	372.2-W1147
Wiltse. Kindergarten stories and morning talks. 1898	372.2-W71

PUBLIC SCHOOL SYSTEM.

Bradbury. The Cambridge high school: history and catalogue. With its early history [1847-56], by Elbridge Smith. 1882	379-C14
Brown. The making of our middle schools: an account of secondary education in the United States. 1903	379-B81
Chancellor. Our schools: their administration and supervision. 1904	379-C36
Craik. The state in its relation to education. 1884	379-C845
Dodge. Our common school system. 1880	379-D663
Eliot. More money for the public schools. 1903	379-EL43
Hinsdale. Horace Mann and the common school revival in the United States. 1898	379-H59
Hughes. The making of citizens: a study in comparative education. 1902	379-H87
Johnson. Old-time schools and school-books. 1904	379-J621

Martin. Evolution of the Massachusetts public school system. 1894	379-M36
National educational association. Report of the committee of ten on secondary school studies. 1894	379-N21
Pickard. School supervision. 1890	379-P58
Rice. Public-school system of the United States. 1893	379-R36
Ware. Educational foundations of trade and industry. 1901	379-W22

TEACHING OF SPECIAL SUBJECTS.

READING

Badlam. Suggestive lessons in language and reading for primary schools. 1897	372-B14
McMurry. Special method in primary reading and oral work with stories. 1903.	372-M22
Laing. Reading. 1901	372-L14

LANGUAGE AND LITERATURE.

Breul. Teaching of modern foreign languages in our secondary schools. 1899	407-B75
Carpenter, and others. Teaching of English in the secondary school. 1903	420-C22
Chubb. Teaching of English in the elementary and the secondary school. 1902	428-C47
Gouin. Art of teaching and studying languages. 1892	407-G72
Hinsdale. Teaching the language-arts. 1896	407-H59
McMurry. Special method in the reading of complete English classics in the grades of the common school. 1903	807-M22
Rolfe. Elementary study of English. 1896	807-R64
Sweet. Practical study of languages. 1900	407-Sw3

NATURE STUDY AND SCIENCE.

Bailey. The nature-study idea. 1903	507-B15
Birds, List of books on. In <i>Cambridge Public Library Bulletin</i> , March, 1901	R
Carter. Nature study with common things: an elementary laboratory manual. 1904	580.7-C24
Cornell university. College of Agriculture. Teacher's leaflets on nature-study, nos. 1-22. 1896-1901	507-C81
Engell. Outlines in nature study and history. 1900	507-En3
Ganong. The teaching botanist. 1899	580.7-G15
Harris. How to teach natural science in public schools. 1895	507-H24
Hodge. Nature study and life. 1902	507-H66
Howe. Advanced elementary science: part 2 of Systematic science teaching. 1900	507-H831
——— Systematic science teaching. 1894	507-H83
Jackman. Nature study for the common schools. 1892	507-J13
McMurry. Special method in elementary science for the common school. 1904	507-M22
Smith. Teaching of elementary mathematics. 1900	510.7-Sm5
Wilson. Nature study in elementary schools. 1897	507-W69

HYGIENE AND SANITATION.

Bancroft. School gymnastics with light apparatus. 1901	371.7-B22
——— School gymnastics, free hand. 1902	371.7-B221

Burrage and Bailey. School sanitation and decoration. 1899	371.6-B94
Colburn. Graded physical exercises. 1901	371.7-C67
Harvey. Teacher's manual of physical exercises. 1894	613.7-H26
Lincoln. School and industrial hygiene. 1890	613-L63
Lishman, ed. A drill book for elementary schools. 1901	371.7-L68
Massachusetts emergency and hygiene association. Six lectures upon school hygiene. 1886	613-M38
Rowe. Physical nature of the child and how to study it. 1899	612-R79
Shaw. School hygiene. 1901	371.7-Sh2
Stoneroad. Gymnastic stories and plays for primary schools. 1898	613.7-St7

MANUAL AND INDUSTRIAL TRAINING.

Ham. Manual training. 1886	371.4-H17
Hapgood. School needlework. 1893	646-H211
Herrick. Meaning and practice of commercial education. 1904	650.7-H43
Hildreth. Clay modeling in the school-room. 1892	372-H54
Knapp. Raphia and reed weaving, including also cardboard and paper construction. 1902	372-K72
Massachusetts. Manual training commission. Report of the commission appointed to investigate the existing systems of manual training and industrial education. 1893	371.4-M38
Salomon. Slöjd in the service of the school. 1888	694-Sa32
——— Teacher's hand-book of slöjd, as practised and taught at Nääs. 2d ed. 1900	694-Sa3
——— Theory of educational slöyd. 2d ed. 1900	694-Sa31
Stetson. Technical education. 1874	607-St4
Tadd. New methods in education: art, real manual training, nature study. 1899	371.4-T12
Wilson, ed. Handbook of domestic science and household arts for use in elementary schools. 1900	640-W69
Woodward. The manual training school. 1887	371.4-W871

ART AND SCHOOL ARCHITECTURE.

Briggs. Modern American school buildings. 1899	727-B76
Emery. How to enjoy pictures, with a chapter on pictures in the schoolroom. 1898	750-Em3
Walker. Instructive and ornamental paper work. 1901	746-W15
Wheelwright. School architecture. 1901	727-W57
Wilson. Picture study in elementary schools. 2 v. 1899-1900	707-W69

HISTORY.

Allen. Topical studies in American history. New ed. 1899	973-A15
American colonial life, List of books on. In <i>Cambridge Public Library Bulletin, February, 1902</i>	R
Barnes. Studies in general history. 1886	907-B26
Bourne. Teaching of history and civics in the elementary and the secondary school. 1902	907-B66
Channing and Hart. Guide to the study of American history. 1896	973-C361
Goodrich. Topics on Greek and Roman history. 1900	938-G62
Gordy and Twitchell. Pathfinder in American history. 1893	973-G6591
Hart, ed. American history told by contemporaries. 4 v. 1897-1901	973-H251
——— Source-book of American history. 1903	973-H2511
Hinsdale. How to study and teach history. 1894	907-H59
Kendall, ed. Source-book of English history. 1904	942-K33
Lee. Source-book of English history. 1900	942-L51

McMurry. Special method in history. [Grades below the high school.] 1903	907-M22
New England history teachers' association. A history syllabus for secondary schools. 1904	907-N44
Wilson. United States history in elementary schools. 1899	907-W69

GEOGRAPHY.

Frye. The child and nature: geography teaching with sand modeling. 1892	910.7-F94
King. Methods and aids in geography. 1889	910.7-K58
McMurry. Excursions and lessons in home geography. 1904	910.7-M222
——— Special method in geography. 1904	910.7-M221
——— Teacher's manual of geography, to accompany Tarr and McMurry's series of geographies. 1904	910.7-M22
——— Type studies from the geography of the United States. First series. 1904	910.7-M223
Parker. How to study geography. 1890	910.7-P32
Redway. The new basis of geography. 1901	910.7-R24

EDUCATIONAL BIOGRAPHY.

Arnold. Thomas and Matthew Arnold and their influence on English education. By Fitch. 1897	B-Ar66fi
Comenius. John Amos Comenius, bishop of the Moravians: his life and educational works. By Laurie. 1885	B-C733l
Froebel. Froebel and education by self-activity. 1893	B-F922b
Mann. Life of Horace Mann. By Mrs. Mann. 1865	B-M313
——— Horace Mann, the educator. By Winship. 1896	B-M313w
Pestalozzi. Life and work. By Guimps. 1892	B-P437g
——— Life, work, and influence. By Krüsi. 1875	B-P437k
Winship. Great American educators, with chapters on American education. 1900	920-W73

PSYCHOLOGY AND CHILD STUDY.

Baldwin. Dictionary of philosophy. Vols. 1-2.	R
Compayré. Elements of psychology. 1890	150-C73
Dexter and Garlick. Psychology in the schoolroom. 1898	150-D52
Hall. Adolescence. 1904. 2 v.	150-H14
Halleck. Education of the central nervous system. 1902	150-H151
Harris. Psychologic foundations of education. 1898	150-H24
James. Talks to teachers on psychology. 1899	150-J2311
Judd. Genetic psychology for teachers. 1903	150-J88
Kirkpatrick. Fundamentals of child study. 1904	150-K63
Morgan. Psychology for teachers. 1898	150-M82
Münsterberg. Psychology and life. 1899	150-M92
Preyer. Mental development in the child. 1893	150-P921
——— Mind of the child. 2 v. 1888-89	150-P92
Shinn. Notes on the development of a child. 1893-99	150-Sh6
Sully. Outlines of psychology. 1891	150-Su51
——— Studies of childhood. 1896	150-Su52
——— Teacher's handbook of psychology. 1897	150-Su53
Taylor. Study of the child. 1898	150-T21
Tracy. Psychology of childhood. 1895	150-T67

MORAL AND ETHICAL EDUCATION.

Abbott. Gentle measures in the management of the young. 1872	173-Ab2
Adler. Moral instruction of children. 1892	377-Ad1
Du Bois. Point of contact in teaching. 1901	268-D85
Garrison. Parables for school and home. 1897	170-G19
Gilman and Jackson. Conduct as a fine art: laws of daily conduct, by Gilman; character building, by Jackson. 1891	170-G42
Hughes. Loyola and the educational system of the Jesuits. 1892	377-H87

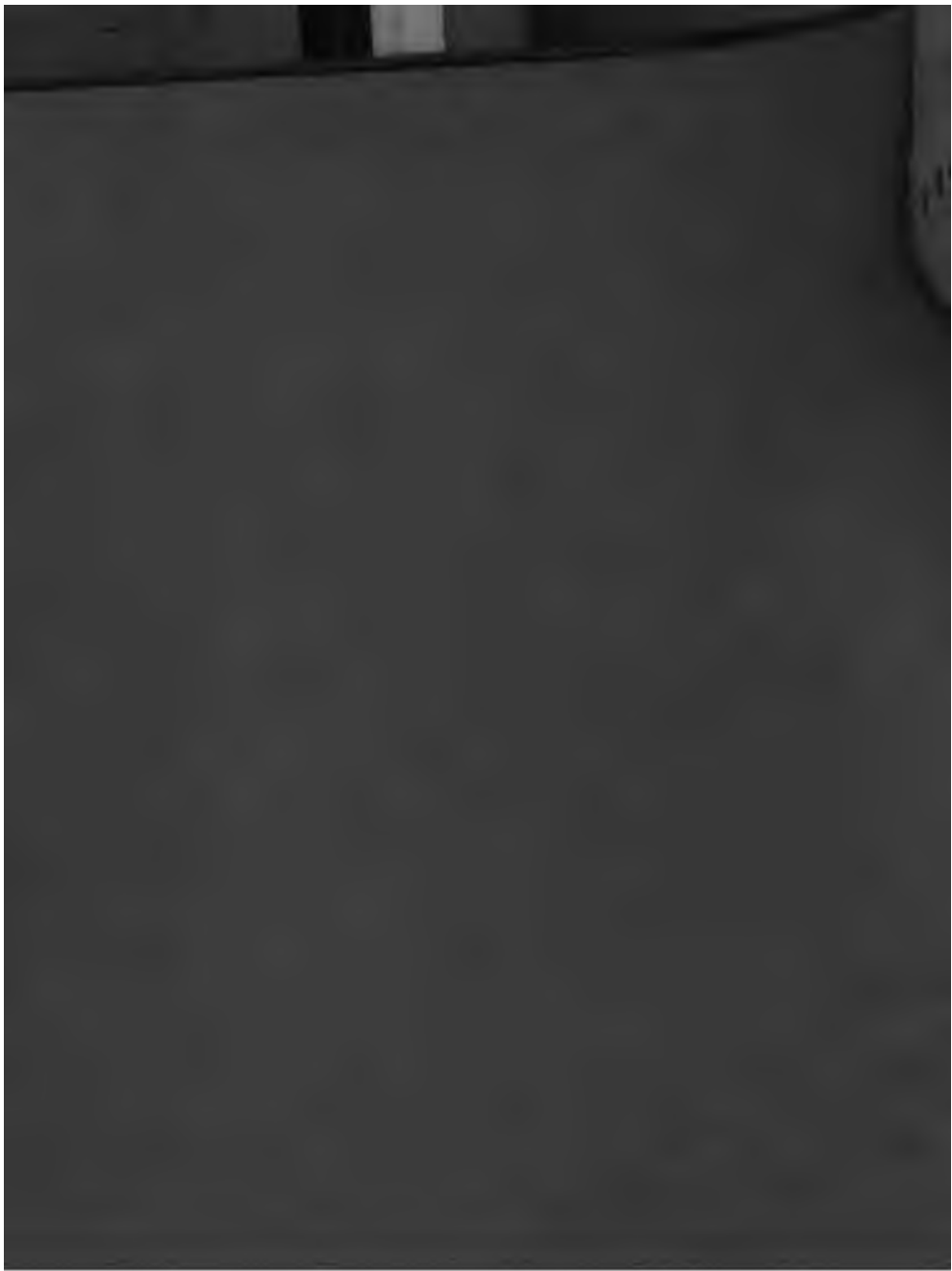
BIBLIOGRAPHY AND READING LISTS.

Baker. Descriptive guide to the best fiction, British and American, including translations from foreign languages. 1903	R
Buffalo public library. Class-room libraries for public schools listed by grades. 1902	028-B86
Carnegie library of Pittsburgh. Graded and annotated catalogue of books . . . for the use of the city [Pittsburgh] schools. 1900	R
Columbia university. Books on education in the libraries of Columbia University. 1901	016.3-C72
Dixson, comp. Comprehensive subject index to universal prose fiction. 1897	016.8-D64
Granger, ed. An index to poetry and recitations. 1904	R
Griswold. Descriptive list of books for the young. 1895	028-G88
Hewins, comp. Books for boys and girls. 1904	028-H49
Hodgkins. Guide to the study of nineteenth century authors. 1899	016.8-H66
Kroeger. Guide to the study and use of reference books. 1902	028-K91
Monroe. Bibliography of education. 1897	016.3-M75
New international encyclopædia. Courses of reading and study. [Suppl. vol.] 1905	R
Sargent. Reading for the young. 1890-96	028-Sa7
Winchester. Five short courses of reading in English literature. 1892	016.8-W72

PERIODICALS AND ANNUALS.

Educational review. Vols. 1-date. 28 v. 1891-1904	370.5-Ed81
Massachusetts. Education, Board of. 1st-67th annual report. 67 v. bound in 54. 1838-1904	379-M38
National educational association. Journal of proceedings and addresses. 1874, 1892-93, 1899-1904. 9 v.	370.6-N21
----- Yearbook and list of active members. 2 v. 1903-04	370.6-N211
Pedagogical seminary. Vols. 1-date. 11 v. 1891-1904	370.5-P34
School review: a journal of secondary education. Vols. 1-date. 13 v. 1893-1904	370.5-Sch61
United States. Education, Bureau of. Reports of the commissioner of education for [1869]-date. 47 v. 1870 1903	379-Un3





Annual Report
OF THE
SCHOOL COMMITTEE

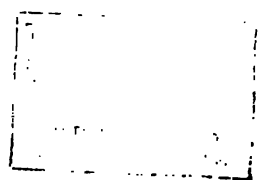


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City of Cambridge
MASSACHUSETTS









Francis Cogswell
Master of the Putnam School 1854-1874
Superintendent of Schools 1874-1895

City of Cambridge
Massachusetts

ANNUAL REPORT

OF

SCHOOL COMMITTEE

FOR THE YEAR

SUPERINTENDENT OF SCHOOLS

1905



PRINTED BY THE
UNIVERSITY PRESS



Francis Cogswell

City of Cambridge
Massachusetts

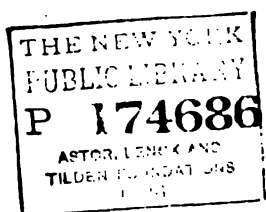
ANNUAL REPORT
OF THE
SCHOOL COMMITTEE

PREPARED BY THE
SUPERINTENDENT OF SCHOOLS

1905



PRINTED FOR THE DEPARTMENT
BY THE CITY CLERK



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1. The first part of the document is a list of names and addresses of the members of the committee.

SCHOOL COMMITTEE.

1906.

HON. CHARLES H. THURSTON, *Chairman ex officio.*

	Term expires, Dec.
*MR. WARREN P. ADAMS, 12 Sumner Street . . .	1908
*REV. GEORGE W. BICKNELL, D.D., 330 Harvard Street	1907
LAWRENCE G. BROOKS, Esq., 8 Francis Avenue . . .	1906
*MRS. CAROLYN P. CHASE, 19 Lancaster Street . . .	1906
MR. EDWIN L. CHENEY, 41 Essex Street . . .	1908
MISS ADA R. KINSMAN, 15 Watson Street . . .	1908
MR. EDWARD J. KRONAN, 128 Otis Street . . .	1906
*DR. SHERMAN R. LANCASTER, 5 Pleasant Street . . .	1907
MR. JAMES A. LEW, 40 Magee Street . . .	1906
MR. WILLIAM TAGGARD PIPER, 179 Brattle Street . . .	1906
J. HENRY RUSSELL, Esq., 176 Hancock Street . . .	1906
MR. FRANK E. SANDS, 22 Avon Street . . .	1907
DR. JOHN E. SOMERS, 1979 Massachusetts Avenue . . .	1908
MR. JOSEPH E. SHARKEY, 259 Elm Street . . .	1908
REV. ROBERT WALKER, 74 Fourth Street . . .	1907

WILLIAM TAGGARD PIPER, *President.*

SANFORD B. HUBBARD, *Secretary and Agent.*

WILLIAM E. McANAU, *Page.*

Regular meetings of the School Committee are held on the third Thursday of each month at 8 o'clock P. M.

SUPERINTENDENT OF SCHOOLS.

WILLIAM C. BATES Residence, 473 Broadway.

OFFICE HOURS.

CITY HALL.

From 4 to 5 o'clock P. M. on school days.

* Elected at large.

STANDING COMMITTEES.

1906.

Teachers — Mr. Bicknell, Mr. Walker, Mr. Piper, Mr. Adams, and Mr. Somers.

Text-Books — Mr. Lancaster, Mr. Russell, Mr. Bicknell, Mr. Sharkey, and Mr. Brooks.

Schoolhouses — Mr. Somers, Mr. Lancaster, Mr. Kronan, Mr. Cheney, and Mr. Adams.

High Schools — Mr. Lancaster, Mr. Piper, Mr. Walker, Mrs. Chase, and Mr. Sharkey.

Wellington Training School — Mr. Walker, Mr. Kronan, Mr. Sands, Miss Kinsman, and Mr. Brooks.

Kindergartens — Mrs. Chase, Mr. Lew, Mr. Cheney, Mr. Sands, and Miss Kinsman.

Evening Schools — Mr. Walker, Mrs. Chase, Mr. Bicknell, Mr. Lew, and Mr. Kronan.

Special Studies — Mr. Sharkey, Mr. Bicknell, Mr. Lew, Mr. Somers, and Miss Kinsman.

Rules — Mr. Russell, Mr. Adams, and Mr. Sharkey.

Finance — The President, *ex officio*, Mr. Russell, and Mr. Sands.

Supplies — Mr. Russell, Mr. Cheney, and Mr. Brooks.

THE ASSIGNMENT OF SCHOOLS.

The schools are assigned to individual members of the school committee as follows :—

To Mr. Adams — The Agassiz, the Holmes, and the Riverside.

To Mr. Bicknell — The Harvard, and the Merrill.

To Mr. Brooks — The Houghton.

To Mrs. Chase — The Peabody.

To Mr. Cheney — The Parker, and the Roberts.

To Miss Kinsman — The Boardman, the Tarbell, and the Willard.

To Mr. Kronan — The Lassell, the Otis, and the Thorndike.

To Mr. Lancaster — The Morse.

To Mr. Lew — The Webster.

To Mr. Piper — The Cushing, the Lowell, and the Russell.

To Mr. Russell — The Felton, and the Fletcher.

To Mr. Sands — The Reed, the Shepard, and the Wyman.

To Mr. Sharkey — The Gannett, and the Kelley.

To Mr. Somers — The Ellis, and the Sleeper.

To Mr. Walker — The Gore, the Putnam, and the Taylor.

The kindergartens are assigned to the members of the Committee on kindergartens.

1. The first part of the document is a list of the names of the persons who were present at the meeting.

2. The second part of the document is a list of the names of the persons who were not present at the meeting.

REPORT OF THE SCHOOL COMMITTEE FOR 1905

In compliance with Section 44 of the Rules of the School Board, the superintendent herewith submits his first annual report:—

Francis Cogswell was superintendent of schools until September 1st, 1905. This report is for the year ending December thirty-first, 1905. It is, therefore, a continuation of the record of Mr. Cogswell's administration.

The present superintendent has had the help of Mr. Cogswell's advice in many of the problems that have come up for consideration during the past four months, and the beginning of his work in Cambridge has been made most agreeable because he has had the privilege of daily intercourse with this leader, who for thirty years has so managed the difficult problems of school administration, that not only in Cambridge but also in the associations of those who are engaged in the work of school supervision, he is honored and beloved because of his keen judgment, strength of purpose, helpfulness in counsel and wisdom in management.

The tables of statistics, which contain much valuable information concerning the growth and the work of the Cambridge schools, appear in the usual form.

Abstracts from the reports of the standing committees give account of the special matters that have received attention during the year.

The shorter course in the grammar schools deserves special notice and careful study. A thoughtful reading of all the facts presented in the following pages treating of this subject will show that the shorter course works to the decided advantage of those pupils who are able to do thorough work with greater speed.

It gives an elasticity to the grammar course that makes it possible for a pupil to pursue his way freed to a large extent from the restraints that children of good ability, who are willing to work, often find in graded schools.

It is a feature of the work here that is attracting increasing attention wherever efforts are being made to furnish for each individual the greatest possible opportunities for advancement consistent with due regard for health, and for that free and happy life which is the right of every child.

Effort is being made to give effective attention to those children who are backward or discouraged. It has been found that by a readjustment of the program, so that less of the teacher's time is given to formal recitation, and more to directing the work that precedes recitation, many pupils are saved from discouragement and failure.

As children gain greater power to do their prescribed work, and as they have greater joy in doing it, the number of pupils who go on from grade to grade is increased. The value of a primary or lower grammar grade is measured by the proportion of pupils who have earned promotion. The value of a higher grammar grade is in inverse ratio to the number of pupils who drop out during the year. A good school holds its pupils; for the experience of the children has shown them that every day there is afforded at the good school opportunity for increase in power that is worth going to get; their experience has shown, too, that the management of the good school is such that life in it is large and happy; and to such a school pupils are loyal with all the ardor of youthful enthusiasm and love.

Latin School	1	Classrooms in use	17
English High School	1	" "	13
Rindge Manual Training School	1	" "	14
Grammar Schools	6	" "	84
Grammar and Primary Schools	11	" "	128
Primary Schools	16	" "	83
Kindergartens	16	" "	16
Evening High School	1	" "	11
Evening Drawing Schools	2	" "	4
Evening Manual Training School	1	" "	2
Evening Elementary Schools	4	" "	31
Whole number of Day Schools		" "	52
Whole number of classrooms for Day Schools		" "	352

NUMBER OF TEACHERS IN THE DAY SCHOOLS.

[The directors of special studies and the teachers of sewing are included in the totals.]

December	Latin School	English High School	Manual Training School	Grammar Schools	Primary Schools	Kinder-gartens	Total
1901	22	24	14	177	143	25	418
1902	24	24	15	179	140	25	417
1903	23	24	16	183	142	29	428
1904	23	24	19	187	142	29	435
1905	24	24	22	191	144	32	*451

* Four unassigned teachers are included in the total for 1905.

ATTENDANCE AT ALL THE DAY SCHOOLS.

Year	Number of Pupils Registered	Average Number Belonging	Average Daily Attendance	Per cent of Attendance
1901	16,065	14,144	13,021	92.1
1902	16,841	14,244	13,215	92.8
1903	16,394	14,397	13,250	92.0
1904	16,257	14,454	13,361	92.4
1905	16,381	14,606	13,550	92.8

ATTENDANCE AT THE LATIN SCHOOL.

Year	Number of Pupils Registered	Average Number Belonging	Average Daily Attendance	Per cent of Attendance
1901	490	468	449	96.1
1902	488	465	441	95.1
1903	501	474	451	94.9
1904	516	487	465	95.5
1905	564	531	506	95.2

ATTENDANCE AT THE ENGLISH HIGH SCHOOL.

Year	Number of Pupils Registered	Average Number Belonging	Average Daily Attendance	Per cent of Attendance
1901	618	517	490	94.8
1902	577	498	464	93.1
1903	583	493	470	95.3
1904	605	556	530	95.4
1905	595	550	525	95.5

REPORT OF SCHOOL COMMITTEE.

ATTENDANCE AT THE MANUAL TRAINING SCHOOL.

Year	Number of Pupils Registered	Average Number Belonging	Average Daily Attendance	Per cent of Attendance
1901	217	191	184	96.2
1902	254	242	229	94.4
1903	300	262	251	95.9
1904	351	315	302	95.9
1905	426	396	377	95.1

ATTENDANCE AT THE GRAMMAR SCHOOLS.

Year	Number of Pupils Registered	Average Number Belonging	Average Daily Attendance	Per cent of Attendance
1901	7,044	6,483	6,079	93.8
1902	7,359	6,711	6,316	94.1
1903	7,279	6,725	6,306	93.8
1904	7,322	6,701	6,316	94.3
1905	7,457	6,713	6,331	94.3

ATTENDANCE AT THE PRIMARY SCHOOLS.

Year	Number of Pupils Registered	Average Number Belonging	Average Daily Attendance	Per cent of Attendance
1901	6,815	5,840	5,310	90.9
1902	6,687	5,708	5,249	92.0
1903	6,711	5,755	5,227	90.8
1904	6,534	5,705	5,194	91.0
1905	6,359	5,629	5,173	91.9

ATTENDANCE AT THE KINDERGARTENS.

Year	Number of Pupils Registered	Average Number Belonging	Average Daily Attendance	Per cent of Attendance
1901	886	645	509	78.9
1902	976	620	516	83.2
1903	1,020	688	545	79.2
1904	929	690	554	80.2
1905	980	787	638	81.1

NUMBER OF PUPILS ADMITTED TO THE LOWEST GRADE OF THE LATIN SCHOOL.

Course, 5 years.

Year	Boys	Average Age	Girls	Average Age
1901	57	14 years 6 months	58	14 years 2 months
1902	60	14 years 5 months	88	14 years 4 months
1903	65	14 years 4 months	80	14 years 5 months
1904	67	14 years 5 months	91	14 years 7 months
1905	61	14 years 6 months	92	14 years 8 months

NUMBER OF PUPILS GRADUATED FROM THE LATIN SCHOOL.

Course, 5 years.

Year	Boys	Average Age	Girls	Average Age
1901	22	18 years 7 months	34	19 years 0 months
1902	23	19 years 1 month	39	18 years 9 months
1903	18	18 years 4 months	31	18 years 10 months
1904	19	18 years 1 month	31	18 years 9 months
1905	40	18 years 11 months	30	18 years 7 months

NUMBER OF PUPILS ADMITTED TO THE LOWEST GRADE OF THE ENGLISH HIGH SCHOOL.

Year	Boys	Average Age	Girls	Average Age
1901	46	14 years 11 months	145	15 years 0 months
1902	41	14 years 8 months	155	15 years 1 month
1903	58	14 years 8 months	192	15 years 0 months
1904	24	14 years 5 months	186	15 years 0 months
1905	10	14 years 6 months	209	14 years 6 months

NUMBER OF PUPILS GRADUATED FROM THE ENGLISH HIGH SCHOOL.

Year	Boys	Average Age	Girls	Average Age
1901	13	18 years 3 months	47	18 years 9 months
1902	25	18 years 7 months	61	18 years 9 months
1903	15	18 years 8 months	58	18 years 7 months
1904	12	18 years 7 months	64	18 years 9 months
1905	13	18 years 10 months	61	18 years 9 months

**NUMBER OF PUPILS ADMITTED TO THE LOWEST GRADE OF THE MANUAL TRAINING
SCHOOL, WITH THE NUMBER OF GRADUATES.**

Year	Admitted	Average Age	Graduated	Average Age
1901	110	15 years 2 months	21	18 years 3 months
1902	127	15 years 2 months	23	19 years 2 months
1903	144	15 years 2 months	38	18 years 7 months
1904	194	15 years 0 months	30	18 years 3 months
1905	199	15 years 0 months	32	18 years 7 months

NUMBER OF PUPILS GRADUATED FROM THE GRAMMAR AND PRIMARY SCHOOLS.

Year	Grammar Schools. Course, 6 yrs.	Average Age	Primary Schools. Course, 3 yrs.	Average Age
1901	565	14 years 11 months	1,467	9 years 7 months
1902	648	14 years 11 months	1,460	9 years 6 months
1903	648	14 years 9 months	1,428	9 years 5 months
1904	708	14 years 10 months	1,444	9 years 6 months
1905	720	14 years 10 months	1,427	9 years 6 months

**LENGTH OF TIME IN COMPLETING THE COURSE OF STUDY IN THE
GRAMMAR SCHOOLS.**

Year	In 4 years	In 5 years	In 6 years	In 7 years or more
1901	6 per cent	28 per cent	50 per cent	16 per cent
1902	7 per cent	27 per cent	51 per cent	15 per cent
1903	6 per cent	26 per cent	53 per cent	15 per cent
1904	5 per cent	28 per cent	52 per cent	15 per cent
1905	6 per cent	28 per cent	53 per cent	13 per cent

**LENGTH OF TIME IN COMPLETING THE COURSE OF STUDY IN THE
PRIMARY SCHOOLS.**

Year	In 2 years	In 2½ years	In 3 years	In 3½ years	In 4 years	In 4½ years or more
1901	3 per cent	1 per cent	61 per cent	5 per cent	20 per cent	10 per cent
1902	3 per cent	2 per cent	62 per cent	4 per cent	20 per cent	9 per cent
1903	3 per cent	2 per cent	60 per cent	5 per cent	22 per cent	8 per cent
1904	3 per cent	3 per cent	54 per cent	6 per cent	24 per cent	10 per cent
1905	2 per cent	1 per cent	60 per cent	6 per cent	21 per cent	10 per cent

NUMBER OF PUPILS IN THE LATIN SCHOOL, DECEMBER, 1905.

Grade	Boys	Girls	Total	Per cent
Fourteenth	34	33	67	.120
Thirteenth	35	50	85	.153
Twelfth	51	68	119	.215
Eleventh	45	80	125	.225
Tenth	64	96	160	.287
Total	229	327	556	

NUMBER OF PUPILS IN THE ENGLISH HIGH SCHOOL, DECEMBER, 1905.

Grade	Boys	Girls	Total	Per cent
Thirteenth	9	72	81	.138
Twelfth	26	121	147	.250
Eleventh	18	129	147	.250
Tenth	9	196	205	.349
Specials	1	7	8	.013
Total	63	525	588	

NUMBER OF PUPILS IN THE MANUAL TRAINING SCHOOL, DECEMBER, 1905.

Grade	Boys		Per cent
Thirteenth	67	This school is for boys only. It became a part of the public school system, January 1, 1899.	.146
Twelfth	72		.157
Eleventh	136		.296
Tenth	184		.401
Total	459		

NUMBER OF PUPILS IN THE GRAMMAR SCHOOLS, DECEMBER, 1905.

Grade	Boys	Girls	Total	Per cent
Ninth	272	384	656	.093
D	64	49	113	.016
Eighth	374	466	840	.119
C	92	92	184	.026
Seventh	472	525	997	.141
Sixth	541	584	1,125	.159
B	112	130	242	.034
Fifth	663	630	1,293	.183
A	146	145	291	.041
Fourth	708	624	1,332	.188
Total	3,444	3,629	7,073	

NUMBER OF PUPILS IN THE PRIMARY SCHOOLS, DECEMBER, 1905.

Grade	Boys	Girls	Total	Per cent
Third.....	996	814	1,810	.309
Second.....	894	867	1,761	.301
First.....	1,247	1,086	2,283	.390
Total.....	3,187	2,717	5,854	

NUMBER OF PUPILS AND TEACHERS IN THE KINDERGARTENS.

Year	Boys	Girls	Total	Number of Teachers
1903	383	381	764	29
1904	378	364	742	29
1905	415	419	834	32

NUMBER OF PUPILS BELONGING TO THE EVENING DRAWING SCHOOLS, WITH THE AVERAGE ATTENDANCE.

1900	1901	1902	1903	1904	1905
184	193	220	187	167	188
99	97	114	98	102	115

NUMBER OF PUPILS BELONGING TO THE EVENING HIGH AND ELEMENTARY SCHOOLS, WITH THE AVERAGE ATTENDANCE.

1900	1901	1902	1903	1904	1905
1,248	1,286	1,367	1,664	1,795	2,306
420	464	510	625	720	893

NUMBER OF PUPILS IN THE PRIVATE SCHOOLS IN CAMBRIDGE, INCLUDING THOSE IN THE PAROCHIAL SCHOOLS.

1900	1901	1902	1903	1904	1905
3,004	3,439	3,451	3,711	4,047	4,100

NUMBER OF AGE AND SCHOOLING CERTIFICATES ISSUED.

1900	1901	1902	1903	1904	1905
380	387	507 *354	565 *655	578 *859	666 *749

* Issued to minors over sixteen years of age, in accordance with the law of 1902.

COMPARATIVE STATISTICS OF THE SCHOOLS.

1845	1895	1905
POPULATION OF CAMBRIDGE.		
12,490	81,634	97,434
VALUATION OF CAMBRIDGE.		
\$8,600,336	\$80,911,060	\$108,845,600
NUMBER OF CHILDREN IN THE CITY BETWEEN FIVE AND FIFTEEN YEARS OF AGE.		
2,858	12,869	15,858
NUMBER OF PUPILS IN THE SCHOOLS IN DECEMBER.		
2,151	12,174	15,864
NUMBER OF TEACHERS IN DECEMBER.		
37	322	451
COST OF THE DAY SCHOOLS.		
\$14,358	\$299,085	\$462,412
COST PER PUPIL.		
\$6.67	\$26.00	\$31.66
NUMBER OF PUPILS IN THE SCHOOLS BY GRADES.		
	1895	1905
High Schools	1,062	1,603
Grammar Schools . . .	5,608	7,073
Primary Schools . . .	5,087	5,854
Kindergartens	417	834
	<u>12,174</u>	<u>15,364</u>

COST OF INSTRUCTION IN THE DAY SCHOOLS.

[Salaries of teachers, superintendent, supervisor, agent, clerks, and truant officers.]

Year	Number of Teachers in December	Average Number of Pupils	Whole Cost	Cost per Pupil
1876	176	7,066	\$164,818 00	\$23 32
1880	182	7,175	180,371 75	18 17
1884	216	8,414	152,290 62	18 09
1888	241	9,756	175,778 80	18 02
1892	284	10,861	207,144 22	19 07
1896	337	11,957	245,104 01	20 50
1898	364	12,907	268,182 97	20 78
1900	409	13,816	326,512 34	23 63
1901	413	14,144	386,149 80	23 77
1902	417	14,244	343,787 00	24 14
1903	428	14,397	349,179 80	24 25
1904	435	14,454	356,406 89	24 66
1905	*451	14,606	366,448 39	25 09

COST OF THE DAY SCHOOLS.

[This includes the cost of instruction, of text-books and supplies, of incidental expenses, of the care of truants, of the care and repair of schoolhouses, and of the transportation of pupils.]

Year	Number of Teachers in December	Average Number of Pupils	Whole Cost	Cost per Pupil
1876	176	7,066	\$200,894 09	\$28 43
1880	182	7,175	153,967 56	21 45
1884	216	8,414	203,234 56	24 15
1888	241	9,756	225,408 57	23 10
1892	284	10,861	266,651 02	24 55
1896	337	11,957	316,090 83	26 44
1898	364	12,907	345,566 30	26 77
1900	409	13,816	417,554 00	30 22
1901	413	14,144	429,208 22	30 35
1902	417	14,244	427,356 71	30 00
1903	428	14,397	429,554 39	29 84
1904	435	14,454	450,310 44	31 15
1905	*451	14,606	462,412 09	31 66

COST OF INSTRUCTION IN THE EVENING SCHOOLS.

Year	Elementary	High	Drawing	Total
1901	\$2,777 50	\$1,551 75	\$1,205 00	\$5,534 25
1902	3,218 50	1,682 75	1,298 00	6,199 25
1903	5,000 50	1,683 00	1,428 00	8,111 50
1904	5,708 00	1,577 50	1,343 00	8,628 50
1905	6,436 00	1,889 00	1,491 00	9,816 00

* Four unassigned teachers are included.

† In accordance with the statutory definition of the support of public schools, the cost of the repair of schoolhouses has not been included in the cost of the schools since 1903 and will not be in the future.

FINANCES.

(For the financial year ending December 1, 1905.)

Cost of instruction in day schools	\$366,448 39
Cost of instruction in evening schools	9,816 00
Cost of care of buildings, day schools	70,876 51
Cost of care of buildings, evening schools	2,255 12
Cost of text-books and supplies, day schools	21,672 82
Cost of text-books and supplies, evening schools	426 51
Expended for care of truants	1,888 26
Expended for flags	71 95
Expended for incidentals	1,586 16
Expended for transportation of pupils	868 00
Expended on vacation schools	1,679 64
Expended on Rindge Manual Training schoolhouse, alterations	12,915 70
Expended on Rindge Manual Training schoolhouse, equipment	6,635 31
Expended on Houghton schoolhouse	87,815 26
Expended on Kelley schoolhouse	88 92
Expended on addition to Roberts schoolhouse	20,857 49
Expended for new furniture	1,107 94
Expended for repairs to buildings, etc.	15,190 42
	<hr/>
	\$621,200 40

Deducting from the above the amount received for the tuition of State and Boston City Wards, \$864.50, the tuition of non-resident pupils, \$5,601.50, the amount received from the sales and damages of books, \$594.96, and sale of old material, \$271.05 . . .

\$7,332 01

The actual cost of the schools to the city is \$613,868 39
 Assessed value of real and personal estates, May, 1905 . . . \$103,845,600 00
 Ratio of expenditure for school purposes to the valuation of 19050059

TABULAR VIEW.

DECEMBER 31, 1905.

Prepared by the Secretary of the School Committee.

Names of Schools	Teachers	Salaries	No. of Pupils Dec. 31, 1905
Latin	William F. Bradbury.....	\$3,000	556
	*John I. Phinney.....	2,000	
	Max Benshimol.....	1,900	
	Cecil T. Derry.....	950	
	Alfred R. Wightman.....	1,400	
	Helen M. Albee.....	950	
	*Constance Alexander.....	950	
	Mary A. Bachelder.....	950	
	Alice C. Baldwin.....	950	
	Almira W. Bates.....	800	
	Margaret S. Bradbury.....	800	
	Isabel S. Burton.....	950	
	Alice C. Chamberlain.....	850	
	Margaret C. Cotter.....	500	
	Grace C. Davenport.....	750	
	Etta L. Davis.....	900	
	Caroline Drew.....	950	
	Nellie C. Fawcett.....	750	
	Elizabeth B. Flanders.....	750	
	Margaret J. Griffith.....	750	
	Mary C. Hardy.....	950	
	*Rose Hardwick.....	950	
	Mabel E. Harris.....	950	
	Louisa P. Parker.....	950	
	Lena G. Perrigo.....	950	
	Ethel V. Sampson.....	900	
	Jennie S. Spring.....	950	
	†Annie S. Dodge.....	600	
English High.....	Ray Greene Huling.....	3,000	588
	Francis L. Bain.....	1,100	
	Joseph A. Coolidge.....	1,800	
	Chester M. Grover.....	1,500	
	Grace L. Deering.....	1,200	
	Caroline Close.....	950	
	Bertha L. Cogswell.....	950	
	Gertrude H. Crook.....	950	
	Mary L. Cunningham.....	850	
	Esther S. Dodge.....	950	
	Agnes B. Goerwitz.....	950	
	Ellen P. Huling.....	700	
	Elizabeth L. Huling.....	700	
	Katherine H. James.....	850	
	Jeannie B. Kenrick.....	900	
	Maud A. Lawson.....	950	
	Henrietta E. McIntire.....	950	
	Mary Moulton.....	950	
	Lillian C. Rogers.....	950	
	Caroline A. Sawyer.....	950	

* On leave of absence in accordance with Section 69 of the Rules of the School Committee.

† Secretary and Librarian.

TABULAR VIEW—Continued.

Names of Schools	Teachers	Salaries	No. of Pupils Dec. 31, 1905
High, Continued..	Florence W. Smith.....	\$950	
	Martha R. Smith.....	950	
	Delia M. Stickney.....	1,200	
	Annie F. Stratton.....	600	
	*Martha L. Babbitt.....	600	
George Manual Training ..	Charles H. Morse.....	3,000	459
	Myra I. Ellis.....	1,300	
	Helen W. Metcalf.....	950	
	Arthur E. Brown.....	1,000	
	James F. Conlin.....	1,000	
	John E. Denham.....	1,000	
	Adolph C. Ely.....	1,200	
	Richard H. Gallagher.....	1,300	
	Frederick G. Getchell.....	1,200	
	Evan W. Griffiths.....	1,100	
	Lewis D. Hill.....	1,600	
	William O. Hubbard.....	900	
	James E. MacWhinnie.....	1,250	
	Edward R. Markham.....	1,500	
	Joseph M. Norton.....	1,100	
	Harry E. Rich.....	950	
	Charles H. Richert.....	800	
	Walter M. Smith.....	1,200	
	Charles E. Stratton.....	1,000	
	James G. Telfer.....	1,500	
	Albert L. Ware.....	1,400	
	John W. Wood, Jr.....	1,600	
	*Myrta E. Smith.....	600	
Siz, { Grammar	Maria L. Baldwin.....	1,000	{ 139
	Edith C. Arey.....	700	
	Addie B. Byam.....	700	
	Frances W. Dawson.....	700	
	Lillian G. Goodwin.....	700	
	† Mary A. Parsons.....	700	
	Grace C. Stedman.....	700	
	Abby S. Taylor.....	500	
	Agnes L. Tracy.....	650	
Woman, Primary.....	Elizabeth J. Karcher.....	790	369
	Mabel E. Blake.....	700	
	Nellie B. Blodgett.....	650	
	Lillian M. Cuddy.....	500	
	Blanche M. Gould.....	500	
	Malvina M. Joslin.....	700	
	Jennie B. Ross.....	550	
	Lucy A. Witham.....	700	
ing, Primary	Maude A. Deehan.....	760	77
	Margaret E. Sheehan.....	650	
Grammar.....	Edward O. Grover.....	2,000	546
	Nellie A. Hutchins.....	900	

Secretary and Librarian.

On leave of absence in accordance with Section 69 of the Rules of the School Committee.

TABULAR VIEW—Continued.

Names of Schools	Teachers	Salaries	No. of Pupils Dec. 31, 1905
Ellis, Continued.....	Caroline L. Blake.....	\$800	
	Adelaide G. Bunker.....	750	
	Emma A. Faulkner.....	700	
	Harriet Foster.....	700	
	Lottie L. Griswold.....	700	
	Louise H. Griswold.....	700	
	Ellen J. Hunt.....	700	
	Flora C. Ingraham.....	700	
	Ida J. Mahoney.....	550	
	Sarah W. Mendell.....	700	
	Mary A. Stephenson.....	700	
	Josephine C. Wyman.....	700	
Felton, Primary.....	C. Florence Smith.....	770	154
	Marcia R. Bowman.....	700	
	S. Emma Davis.....	700	
	Carrie H. Smith.....	700	
Fletcher, { Grammar.....	George B. Colesworthy.....	1,500	{ 256
Primary.....	Frances E. Higgins.....	750	{ 395
	Gertrude M. Baker.....	500	
	Mary I. Chapin.....	700	
	Ellen A. Cheney.....	700	
	Mary A. Doran.....	790	
	Mary N. Flewelling.....	500	
	Katherine A. Gaskill.....	700	
	Mary Godsell.....	500	
	Elmira F. Hall.....	700	
	Martha B. Perkins.....	650	
	Marion Prescott.....	700	
	Susan L. Senter.....	700	
	Eva A. Taylor.....	700	
	Gertrude M. Webster.....	500	
	Emma G. Wentworth.....	600	
Gannett, Primary.....	Mary A. Rady.....	775	146
	Annie M. Billings.....	700	
	Margaret F. Sanderson.....	700	
	Gertrude T. Sullivan.....	650	
Gore, Primary.....	Frances E. Pendexter.....	810	461
	Charlotte A. Callahan.....	700	
	Katherine L. Dolan.....	700	
	Mary L. Donovan.....	500	
	Minnie A. Doran.....	700	
	Kate A. Hegarty.....	700	
	Katherine L. McElroy.....	700	
	Julla G. McHugh.....	700	
	Olive I. McNulty.....	450	
	Mary E. Mulloney.....	700	
	Anastasia Peters.....	700	
	Nora E. Reardon.....	700	
Harvard, Grammar.....	Thomas W. Davis.....	2,000	756
	Ernest T. Cushman.....	1,000	
	Margaret B. Wellington.....	900	

TABULAR VIEW—Continued.

Names of Schools	Teachers	Salaries	No. of Pupils Dec. 31, 1905
ward, Continued.....	Nellie A. Coburn.....	\$800	
	Annie M. Street.....	750	
	Addie L. Bartlett.....	700	
	Winifred B. Cobb.....	700	
	M. Blanche Craig.....	450	
	Frances Fabyan.....	700	
	Margaret M. Fearn.....	700	
	Estella J. French.....	700	
	Annie B. Lowell.....	700	
	Josephine MacDonald.....	700	
	Waitie M. Nash.....	700	
	Laura M. Parmenter.....	700	
	Louise C. Patterson.....	700	
	Elizabeth L. Setchell.....	700	
	Hortense O. Young.....	700	
nes, Primary.....	Susan E. Wyeth.....	765	96
	Catherine M. Doran.....	500	
	Agnes S. White.....	700	
ghton, { Grammar	John W. Freese.....	2,000	{ 456
ghton, { Primary.....	Blanche E. Townsend.....	900	{ 100
	Alice P. Fay.....	750	
	Grace D. Beckwith.....	650	
	Katherine F. Callahan.....	600	
	Eldora J. Clark.....	700	
	Mary L. Ellis.....	700	
	Katharine M. Greene.....	500	
	Winifred L. Kinsley.....	700	
	Emma Penney.....	700	
	Margaret J. Penney.....	700	
	Bessie H. Pike.....	700	
	Anna G. Scannell.....	500	
	Hattie Shepherd.....	700	
	Mary S. Snow.....	450	
y, { Grammar	Everett L. Getchell.....	2,000	{ 314
y, { Primary	H. Warren Foss.....	1,100	{ 318
	Ellen A. Kidder.....	750	
	Olive L. Cook.....	550	
	Josephine Day.....	700	
	Maude M. Dutton.....	700	
	Lucy M. Fletcher.....	700	
	Carrie M. Ford.....	550	
	Jennie C. Hardy.....	700	
	Emma J. Houlahan.....	650	
	Catharine A. McLean.....	700	
	Mary E. Moran.....	500	
	Ethel I. Murch.....	700	
	Eva G. Oakes.....	700	
	Esther D. Paul.....	700	
	Carrie L. Power.....	700	
	Mary E. Regan.....	700	
ell, Primary.....	Frances E. Whoriskey.....	770	169
	Rose V. Collier.....	700	

TABULAR VIEW—Continued.

Names of Schools	Teachers	Salaries	No. of Pupils Dec. 31, 1905
Lassell, Continued.....	Elizabeth B. Gahm..... Mary E. Whoriskey.....	\$700 700	
Lowell, Primary.....	Eusebia E. Minard..... Agnes J. McElroy..... Cora B. Poole.....	775 700 500	81
Merrill, Primary.....	Louise W. Harris..... Julia M. Davis..... Henriette E. de Rochemont..... Daisy E. Haynes..... Marion B. Magwire..... Gertrude S. Thayer..... Nellie F. Walker.....	785 700 700 700 700 550 700	267
Morse, { Grammar..... { Primary.....	Mary A. Townsend..... Mary E. Towle..... Marcia E. Ridlon..... Ida J. Holmes..... Elizabeth J. Baldwin..... Edith M. Carman..... Christina R. Denyven..... Ida M. Holden..... Florence E. Hunter..... Alice E. May..... Helen Montague..... Anna A. O'Connell..... Ella N. Pinkham..... Elizabeth H. Richards..... Lucy M. Souleé..... Bertha J. Waldron..... Mary E. Warren..... Constance E. Yeames.....	2,000 900 800 750 700 500 700 700 700 700 700 700 700 700 700 600 700 450	{ 421 { 216
Otis, Primary.....	Ellen N. Leighton..... Frances Allen..... Anna E. Callahan..... Josephine M. Doherty..... Luella M. Marsh..... Anna N. Sullivan..... Margaret Sullivan..... Ellen C. Walsh.....	785 700 700 700 700 650 700 700	297
Parker, Primary.....	Mary A. Knowles..... Mattie S. Cutting..... Harriet R. Harrington..... Agnes Marchant..... Mary E. Mullins..... Mary E. White.....	780 700 700 700 550 600	249
Peabody, { Grammar..... { Primary.....	Frederick S. Cutter..... Charlotte A. Ewell..... Mabel R. Coombs..... Anna F. Bellows..... Susan C. Allison..... Katherine L. Carr.....	2,000 900 800 700 700 700	{ 379 { 153

TABULAR VIEW—Continued.

Names of Schools	Teachers	Salaries	No. of Pupils Dec. 31, 1905
abody, Continued	Grace LeBaron Esty	\$650	
	Ruth D. Foxcroft	550	
	Helen E. Hazard	700	
	Martha A. Parker	700	
	Bertha L. Stratton	550	
	Isadore M. Thompson	550	
	Dora Trefethen	700	
	Alice M. Tufts	700	
utnam, Grammar	Frederick B. Thompson	2,000	629
	James E. White	1,200	
	Maude M. Mixer	800	
	Eliza S. Paddock	800	
	Grace Clark	750	
	Mary A. Carmichael	700	
	Anna L. P. Collins	700	
	Sarah M. Grieves	700	
	Hattie E. Jewell	700	
	Annie B. Josselyn	700	
	Nellie A. Kerrigan	550	
	Mary A. Macklin	600	
	Katharine I. Nicolson	700	
	Margaret F. O'Keefe	700	
	Annie A. Trelegan	700	
	Minnie F. Wilson	700	
eed, Primary	Margaret T. Burke	770	170
	Elizabeth G. Nelligan	700	
	Julia A. Robinson	700	
	Clara W. Ruggli	700	
iverside, Primary	Elizabeth A. Tower	770	159
	Amanda M. Alger	700	
	Mary A. Burke	700	
	Hattie A. Thayer	600	
oberts, Grammar	W. Mortimer MacVicar	2,000	655
	Sara A. Bailey	900	
	Emily R. Pitkin	750	
	Susan M. Adams	700	
	Clara A. Ball	600	
	Beatrice Bennett	500	
	Mary Blair	700	
	Elizabeth M. Breslin	650	
	Mary M. Brigham	700	
	Faith Foxcroft	500	
	Mary F. Hill	500	
	Susan L. Keniston	700	
	Evelyn B. Kenney	700	
	Ada M. Litchfield	700	
	Clara E. Phinney	600	
	Ida G. Smith	700	
	Caroline M. Williams	700	
Russell, { Grammar	Arthur C. Wadsworth	2,000	{ 874
{ Primary	Mary S. Bingham	900	{ 118

TABULAR VIEW—Continued.

Names of Schools	Teachers	Salaries	No. of Pupils Dec. 31, 1906
Russell, Continued.....	Carrie J. Allison..... Fannie P. Browning..... Ella E. Buttrick..... Mary A. Connelly..... Louise F. James..... Anna M. Lyons..... Louise I. MacWhinnie..... H. Maud McLean..... Alice B. Moore..... Gertrude E. Russell.....	\$700 700 700 700 500 600 550 700 550 700	
Shepard, { Grammar.....	Evelyn J. Locke.....	1,000	{ 222
{ Primary.....	Mary F. Calhane.....	700	
	Florence M. Dudley.....	700	
	Alice M. Gage.....	700	
	Mary M. Gilmán.....	700	
	Theresa H. Mahoney.....	700	
	Ellen O'Keefe.....	650	
	Elizabeth J. O'Keefe.....	500	
	Anna E. Welch.....	550	
Sleeper, { Grammar.....	A. Estelle Ingraham.....	1,000	{ 136
{ Primary.....	Emily Bissell.....	700	
	Butella E. I. Conland.....	700	
	Evelyn M. Dormer.....	700	
	Elizabeth O. Jaynes.....	700	
	Melissa M. Lloyd.....	700	
	Margaret E. Quinn.....	650	
	Blanche E. Trefethen.....	700	
Tarbell, Primary.....	Emma J. Young.....	770	173
	Florence J. Alley.....	700	
	Carrie P. Pierce.....	700	
	Anna H. Welsh.....	650	
Taylor, { Grammar.....	Ella R. Avery.....	1,000	{ 108
{ Primary.....	Mary A. Boland.....	700	
	Bridget T. Boyle.....	700	
	Lillian M. Canty.....	700	
	Lillian W. Davis.....	600	
	Emily M. Dowd.....	450	
	Winifred B. Goodwillie.....	450	
	Cecelia F. Leahy.....	700	
	Mary A. Maguire.....	550	
	Eleanor M. Stevens.....	600	
Thorndike, Grammar.....	Ruel H. Fletcher.....	2,000	528
	Harriet A. Townsend.....	900	
	Laura A. Westcott.....	750	
	Flora E. Cooter.....	600	
	Jennie W. Cronin.....	600	
	Grace W. Fletcher.....	700	
	Faith Garland.....	450	
	Eolalia L. Herald.....	700	
	Lillian Keaney.....	450	
	Lillian H. Kenney.....	650	

TABULAR VIEW—Continued.

Names of Schools	Teachers	Salaries	No. of Pupils Dec. 31, 1905
Thorndike, Continued	Edith M. O'Brien.....	\$500	
	Ellen M. Plympton	700	
	Mabel A. Short.....	650	
	Lydia A. Whitcher.....	700	
Webster, Grammar	John D. Billings.....	2,000	688
	H. Herbert Richardson	1,100	
	Alice C. Phinney.. ..	900	
	Martha N. Hanson.....	800	
	Ada A. Billings	750	
	Mabel T. Ashley.....	700	
	Blanche M. Brickett.....	600	
	Charlotte M. Chase.....	700	
	Fanny F. Curtis	700	
	Susan I. Downs	700	
	Gertrude B. Duffy.. ..	700	
	Josephine Hills.....	700	
	Gertrude I. Johnson	700	
	Minnie V. Reid.....	700	
	Harriette E. Shepard	700	
	Olive L. Slater.....	700	
	Maud A. Sumner.....	700	
	Katherine L. Wight.....	700	
Wellington, { Grammar ...	Herbert H. Bates	2,500	{ 466
{ Primary	Sarah J. Gunnison	1,000	
	Margaret Kidd.....	1,000	
	Mary I. Vinton.....	1,000	
	Carrie H. Stevens.....	900	
	Grace F. Chamberlain.....	700	
	*Ellen A. Sullivan.....	500	
	Training Class	7,291	
Willard, Primary	Katharine E. Hayes.....	810	514
	Agelena Aldrich	600	
	Elizabeth M. Crowley	650	
	Mary L. Dolan	700	
	Ellis F. Gulliver.....	700	
	Julia S. Gushee.....	700	
	Mary E. G. Harrington.....	700	
	Katherine M. Lowell	700	
	Mary A. O'Hara.....	700	
	Annie M. Sands.....	450	
	Eliza D. Watson.....	700	
	Grace R. Woodward	700	
Wyman, Primary	Addie M. Bettinson.....	780	198
	Maria J. Bacon	700	
	Mary H. Brooks	700	
	Georgianna P. Dutcher.....	700	
	Genevieve S. Flint.	700	

* Clerk and Librarian

REPORT OF SCHOOL COMMITTEE.

TABULAR VIEW—Concluded.

Names of Schools		Teachers	Salaries	No. of Pupils Dec. 31, 1903
Kinder- gartens	Boardman.....	*Mary B. Pratt.....	\$700	51
		Florence Rice.....	650	
		Agnes M. Quinn.....	250	
	Corlett.....	Annie M. Dodd.....	650	44
		Frances W. Roberts.....	450	
	Gannett.....	Carrie E. Shepherd.....	700	47
		Marion L. Akerman.....	600	
	Gore.....	Selma E. Berthold.....	700	54
		Ethel M. Halliday.....	250	
	Houghton.....	Edith L. Lesley.....	700	57
		Olive M. Lesley.....	600	
	Lowell.....	Melinda Gates.....	700	40
		Annie L. Crane.....	550	
	Merrill.....	Caroline A. Leighton.....	700	60
		Gretchen K. Hagar.....	600	
	Parker.....	Leonice S. Morse.....	700	46
		Ida E. Ward.....	450	
	Peabody.....	Julia L. Frame.....	700	52
		Irene L. Phelps.....	500	
	Shaw.....	Harriette E. Ryan.....	700	70
		Gertrude M. Simpson.....	450	
	Sleeper.....	Mabel S. Adams.....	700	53
		Caroline E. Simpson.....	600	
	Taylor.....	Mary F. Leland.....	700	56
		Anna D. Francis.....	450	
	Wellington....	Gertrude M. Gove.....	700	56
		Mary E. Valpey.....	250	
	Willard, A. M....	Alice V. McIntire.....	700	53
		Lucy E. Whipple.....	500	
	Willard, P. M....	Jennie S. Clough.....	700	48
		Eva C. Katon.....	550	
	Wyman.....	Clara A. Hall.....	700	
		Della E. Cabot.....	600	47
Teachers of Sewing.....		Agnes Gordon.....	700	
		Alice H. Nay.....	600	
		Nancy T. Dawe.....	600	
Permanent Substitute.....		Mary A. Driscoll.....	500	
Unassigned Teachers.				
High School.....		Emma A. Scudder.....	450	
Primary Schools.....		Sally N. Chamberlain.....	350	
		M. Elizabeth Evans.....	350	
		Mary E. Sawyer.....	350	

* On leave of absence in accordance with Section 69 of the Rules of the School Committee.

DIRECTOR OF MUSIC—Frederick E. Chapman	\$2,000
ASSISTANT IN MUSIC—Georgia E. Martin	850
DIRECTOR OF DRAWING—Peter Roos	2,000
ASSISTANT IN DRAWING—Lucia N. Jennison	800
DIRECTOR OF NATURE STUDY—Sarah A. Brassill	1,000

DIRECTOR OF PHYSICAL TRAINING—Sara E. Boudren	950
INSTRUCTOR IN PHYSICAL TRAINING IN THE HIGH SCHOOLS—Bessie W. Howard	850
SUPERINTENDENT*—William C. Bates	3,500
SUPERVISOR OF PRIMARY SCHOOLS—Mary A. Lewis	1,300
AGENT—Sanford B. Hubbard	2,100
CLERKS—Althea B. Frost	780
Sadie E. Kimball	600
PORTER—John Lemon	700
TRUANT OFFICERS—Lucian S. Cabot	1,000
John Carmichael	1,000
William H. Porter	1,000
Thomas F. Riley	1,000

* Francis Cogswell until September.

SUMMARY.

Number of pupils in the Latin School	556
Number of pupils in the English High School	588
Number of pupils in the Rindge Manual Training School	459
Number of pupils in the Grammar Schools	7,073
Number of pupils in the Primary Schools	5,854
Number of pupils in the Kindergartens	834
Total	15,364
Number of pupils belonging to the public schools December 31, 1904	15,075
Increase of pupils, 1905	289
Increase of pupils, 1904	140
Increase of pupils, 1903	188
Increase of pupils, 1902	253
Increase of pupils, 1901	62
Increase of pupils, 1900	332
Increase of pupils, 1899	314
Increase of pupils, 1898	476
Increase of pupils, 1897	422
Increase of pupils, 1896	714
Average annual increase of pupils from 1896 to 1905 (inclusive)	319

COST OF INSTRUCTION.

Schools and Officers	Cost of Instruction	Average Number of Pupils	Cost per Pupil
Latin School	\$26,711 51	581	\$50 30
English High School ..	26,359 41	550	47 93
Rindge Manual Training School.....	26,487 00	396	66 89
Training School (Teachers).....	14,796 39	701	21 11
Grammar Schools (except Training School)	133,558 75	6,279	21 27
Primary Schools (except Training School)	92,696 70	5,362	17 29
Kindergartens	19,371 96	787	24 61
Teachers of Sewing	1,889 75	....	....
Directors of Music	2,850 00	....	....
Directors of Drawing	2,778 67	....	....
Director of Nature Study	1,000 00	....	....
Directors of Physical Training.....	1,761 00	....	....
Substitute Teachers.....	2,728 25	....	....
Superintendent.....	3,500 00	....	....
Supervisor of Primary Schools	1,300 00	....	....
Agent	2,100 00	....	....
Clerks	1,359 00	....	....
Truant Officers	4,000 00	....	....
Porter	680 00	....	....
Ungraded School	120 00	....	....
Unassigned Teachers	450 00	....	....
Total.....	\$366,448 39	14,606	\$25 09

Cost of instruction in Evening High Schools	\$1,889 00
Cost of instruction in Evening Elementary Schools	6,436 00
Cost of instruction in Evening Drawing Schools	* 1,491 00
Total	\$9,816 00

*The Director of Drawing is principal of these schools. No part of his salary has been included in this amount.

REMARKS ON THE STATISTICS.

The number of pupils registered in the day schools during the year ending June, 1905, was 16,381; the average number belonging was 14,606, and the average daily attendance was 13,550. In the per cent of attendance there has been an increase of four-tenths of one per cent. The number belonging to the schools in December, 1904, was 15,075; in December, 1905, 15,364, an increase of 289.

The cost of instruction, which includes the salaries of teachers, superintendent, supervisor, agent, clerks and truant officers, was \$366,448.39. The total cost of the day schools, which, in accordance with the statutory definition of the support of schools, includes the cost of instruction, text-books and supplies, incidental expenses, care of truants, care of school-houses, and the transportation of pupils, was \$462,412.09.

The average attendance at the evening schools during the school year 1904-1905 was 1,008, an increase of 186, and the number of teachers, including the principals, was 77. The total cost of these schools, which includes the salaries of teachers, the cost of text-books and supplies, fuel, light, and the salaries of janitors, was \$12,497.63.

In December, 1895, the number of pupils in the day schools was 12,174; in December, 1905, the number was 15,364, an increase of 3,190 pupils in ten years. In the high schools there has been an increase of 541 pupils; in the grammar schools, 1,465; in the primary schools, 767, and in the kindergartens, 417. In 1895 there were 8 kindergartens, 16 teachers, and 417 pupils. We now have 16 kindergartens, 32 teachers, and 834 pupils. It will be noticed that the number of kindergartens, the number of teachers and the number of pupils in the kindergartens have all exactly doubled in ten years.

While Cambridge expends a large amount for her schools, there are *two hundred and twenty-eight* towns and cities in the State which make a larger expenditure in proportion to their wealth. In a list of the thirty-three cities, arranged numerically according to the percentage of their taxable property appropriated to the support of public schools for the year 1904-1905, Cambridge is the *twenty-fourth*. In a list of the towns and cities of the State, arranged numerically according to the sum appropriated for each child in the average membership of the public schools, Cambridge is the *twenty-ninth*.

These statistics relating to the schools of the State are taken from the sixty-ninth annual report of the secretary of the State Board of Education.

TEXT-BOOKS AND SUPPLIES.

At a meeting of the Board in December the committee on supplies submitted a detailed report of the expenditures of that committee for the year. The report is as follows:—

In accordance with Section 30 of the Rules of the School Board, the committee on supplies submits its twenty-first annual report, it being for the year ending July 1, 1905:—

Stock on hand July 1, 1904	\$6,638 27	
Purchases and expenditures to July 1, 1905	23,211 35	
		\$29,849 62
Cash sales and damages	\$619 96	
Delivered to schools, officers, etc.	22,020 37	
		22,640 33
Stock on hand July 1, 1905		\$7,209 29

The purchases and expenditures have been:—

For text-books	\$9,029 14	
Desk and reference books	136 03	
Copy books	680 56	
Apparatus and furnishings	1,807 92	
Printing, \$131.65; expressage and labor, \$354.73	486 38	
Repairing books, \$460.15; diplomas, \$221.01	681 16	
Tuning pianos	47 00	
Miscellaneous supplies, etc.	9,962 20	
		\$22,830 39
Less the value of exchanges		700 03
		\$22,130 36

The net cost of text-books and supplies is as follows:—

Stock on hand July 1, 1904	\$6,638 27	
Bills paid by City Treasurer	22,130 36	
		\$28,768 63
Less stock on hand July 1, 1905	\$7,209 29	
Cash paid to City Treasurer, sales and damages	619 96	
		7,829 25
We have, net cost of all schools and officers		\$20,939 38

or an average cost per pupil of \$1.434. The average cost per pupil for twenty-one years has been \$1.282.

The annual cost per pupil for text-books and supplies since the introduction of free text-books is as follows:—

Year	Cost per Pupil	Year	Cost per Pupil	Year	Cost per Pupil
1885	\$1.880	1892	\$1.149	1899	\$1.225
1886	1.170	1893	1.109	1900	1.740
1887	1.051	1894	1.243	1901	1.203
1888	1.068	1895	1.152	1902	1.400
1889	0.960	1896	1.436	1903	1.306
1890	1.334	1897	1.094	1904	1.468
1891	1.248	1898	1.268	1905	1.434

The cost of each grade of schools for text-books and supplies is as follows:—

	Net Expense	Cost per Pupil				
		1905	1904	1903	1902	1901
Latin School.....	\$1,689 62	\$3.182	\$3.177	\$3.463	\$3.990	\$3.985
English High School	1,845 94	3.356	4.153	3.564	3.641	4.236
Manual Training School..	3,965 49	10.014	9 836	16.791	11.564	11.707
Training School, Teachers	675 70	.964	1 042	.664	.707	.704
Grammar Schools.....	5,110 31	1.258	1.397	1.070	1.152	1.068
Mixed Schools	4,729 18	1.153	1.342	.907	1.140	.933
Primary Schools	1,507 65	.433	.441	.379	.528	.431
Kindergartens	501 15	.637	.422	.428	.630	.329
Evening Schools	426 51	.....	.....	.....	.....	.....
Vacation Schools.....	15 14	.....	.....	.....	.....	.....
Special Teachers.....	60 60	.....	.....	.....	.....	.....
Officers of Board.....	45 45	.....	.....	.....	.....	.....
Miscellaneous expenses (not chargeable to any grade).....	389 59	.....	.....	.....	.....	.....
	<u>\$20,962 33</u>					
Less profit on sales	22 95	.....	.....	.....	.....	.....
	<u>\$20,939 38</u>	<u>\$1.434</u>	<u>\$1.468</u>	<u>\$1.306</u>	<u>\$1.400</u>	<u>\$1.203</u>

A comparison of the foregoing tables with those submitted by your committee last year shows a reduction of \$604.27 in the cost of books and materials purchased during the year ending last June. This reduction is caused by the fact that a large part of the geographies and language books were introduced last year, increasing the expenditures of that year above the average, while fewer of these books have been purchased this year.

The decrease is \$1,214.49 for text-books, \$126.93 for desk and reference books, \$8.77 for copy books, \$583.65 for apparatus and furnishings, \$64.35 for printing, \$6.91 for expressage and labor, a total of \$2,005.10, while there has been an increase of \$72.46 for repairing books, \$7.87 for diplomas, \$3.25 for tuning pianos, and \$1,317.25 for miscellaneous supplies due to the small stock one year ago. The value of the stock on hand is \$7,209.29, an increase of \$571.02 above last year.

The amount received for old books on exchanges is \$700.03, a decrease of \$512.83 from last year.

In the several schools, the Latin School shows an increase of \$142.35, or \$0.005 per pupil, entirely in the cost of text-books, as there is a decrease of \$0.473 per pupil in the cost of supplies.

The English High School shows a decrease of \$463.21, or \$0.797 per pupil. The largest decrease is in text-books, though there is a decrease in all the lines of materials supplied.

The Rindge Manual Training School shows an increase of \$867.17, or \$0.178 per pupil, which shows that the large aggregate was almost entirely due to the growth of the school.

The grammar and primary schools show a slight decrease per pupil though the aggregate is larger than the preceding year.

During the year pianos have been purchased for the Fletcher School and the Parker and Houghton kindergartens.

The sloyd outfit to replace that burned at the Allston schoolhouse several years ago was not purchased, nor have the Wheeler readers been purchased, though several of the teachers in primary schools desire them very much. The conditions of the appropriations prevented the purchase of several charts, maps and other needed apparatus.

Pianos are needed to replace the one at the Putnam School and that at the Sleeper Kindergarten; and a sloyd outfit is still much needed in the upper part of the city.

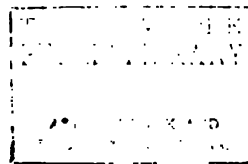
During the year a special appropriation of \$7,000 was made for more extensive apparatus and incidental alterations at the Rindge Manual Training School, and was expended with the approval of this committee. This expenditure was most necessary and we believe that the increased facilities thus obtained will contribute in an important way to this growing and successful school.

Taking the number of pupils in December, 15,364, and the average cost per pupil for twenty-one years, \$1.282, as a basis for estimates for the coming financial year, \$19,696 will be needed for the regular supplies, to which should be added an amount necessary to meet any unusual expenditures which the committee shall deem best to make.

The committee desires to express its appreciation of the faithful and valuable services of the agent of the Board, who has shown great care and economy in the purchase and distribution of the school supplies.

CHANGES IN TEXT-BOOKS.

The following is the rule relating to the changes in text-books:—
“All propositions for changes in text-books shall be made by the superintendent. Whenever he recommends a change he shall appoint two persons, one of whom shall be a teacher in the service of the city, who shall make written reports on the merits of the books recommended. These reports and a like report by the superintendent shall be kept on file in the office of the superintendent, open to inspection by members of the Board only. All changes of text-books recommended to the Board shall be referred to the committee on text-books.”





Houghton School

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BY J. F. OLSON & CO.

Under this rule the following changes in text-books have been made during the year :—

Gustav Adolf in Deutschland (1630–1632) from Schiller's History of the Thirty Years' War, Riehl's Das Spielmannskind—Der Stumme Ratsherr, and Smith's Classical Dictionary have been adopted for use in the high schools.

Edwards's Hand-Book of Mythology has been dropped from the list of authorized text-books for the high schools.

SCHOOL ACCOMMODATIONS.

At a meeting of the Board in December, the committee on school-houses submitted a detailed report of the work of the committee for the year. The following is taken from that report :—

At the meeting of the Board in March, a request was sent to the city council that four rooms be added to the Roberts schoolhouse to be ready for occupancy the first of September. An appropriation of \$20,950 was made for this purpose. The four rooms were added, extensive alterations were made in the hall, the heating and ventilation were much improved and the sanitariums were removed to the basement and entirely renovated. The building was ready for occupancy on the first of October. It now contains sixteen rooms, and is much improved in every respect. To December first there had been expended \$20,857.49 on this building.

The Houghton schoolhouse, containing fourteen rooms and a hall, was completed so as to be occupied by the teachers and pupils of the Washington School at the opening of the schools in September. The cost of the building and land to December first was \$96,127.01. The city has in this building a fine modern schoolhouse containing many features lacking even in some of our most recent buildings.

In compliance with a request of the school committee adopted in April, the city council appropriated \$13,000 for alterations, and \$7,000 for additional equipment of the Rindge Manual Training School.

The basement and sanitary arrangements have been thoroughly renovated, lockers have been put into the basement of this and of the Washington building, many alterations and improvements in the buildings have been made, and the addition to the equipment has been installed. The cost of the improvements to December first was \$12,915.70 for alterations, and \$6,635.31 for equipment.

General repairs have been made on all the schoolhouses as usual, costing in all \$11,805.33 for repairs to buildings, \$2,179.97 for repairs to heating apparatus, \$1,205.12 for repairs to furniture, and \$1,107.94 for new furniture, a total of \$16,298.36.

The buildings where more than five hundred dollars has been expended are, — Latin School, \$2,117.07 for repairs to heating apparatus and furniture, purchase of new furniture, enlarging two rooms, improved ventilation, tinting, etc.; English High, \$1,200.91 for repairs to furniture, tinting, basement floors, repairs to boilers, etc.; Putnam, \$712.99 for repairs to building and furniture, tinting, etc.; Washington, \$699.53 for repairs to building and furniture, plumbing, etc.; Webster, \$799.02 for repairs to building and furniture, purchase of new furniture, new floors, and a new furnace; Russell, \$725.32 for tinting, repairs to heating apparatus, etc.; Parker, \$836.15 for repairs to furniture, purchase of new furniture, changes in sanitariums, ventilation, and plumbing; Rindge Manual Training, \$1,086.59 for general repairs to buildings, heating apparatus and furniture, and the purchase of new furniture; Thorndike, \$584.91 for repairs to building, furniture and heating apparatus.

The total expenditures, except those made under the special appropriation for new work on school buildings, are: —

Janitors' service	\$37,459 55
Janitors' supplies	1,912 30
Fuel	30,920 63
Gas and electric lighting	2,339 25
New furniture	1,107 94
Repairs to buildings	11,805 33
Repairs to furniture	1,205 12
Repairs to heating and plumbing	2,179 97
	<hr/>
	\$88,929 99

The requests of the committee that an addition to the English High schoolhouse be built and that an appropriation be made for the equipment of the gymnasium at the Latin School have been referred to the appropriate committees of the city council.

This committee has recommended that the old Gannett building near the Wellington School be removed and that an addition to the Wellington schoolhouse be built to accommodate the pupils now in the old building.

The watch and fire alarm boxes have been placed in the high school buildings in accordance with a vote of the Board in May, but the service is not yet in operation.

JANITORS.

Section 31 of the city charter provides that "The mayor shall appoint the janitors of schoolhouses, subject to confirmation by the school committee, and may remove them at pleasure for cause assigned; and such janitors shall perform their duties under the direction of the school committee."

Under the direction of the committee on schoolhouses, the agent supervises and directs the work of the janitors, and reports to the commit-

tee such matters as seem to need consideration. The principals of the schools report each month whether or not the work is done in a satisfactory manner.

The following is from the report of the committee on schoolhouses:—

Under the efficient direction of Mr. John Roach, the head janitor, the janitor service in our schoolhouses shows a steady gain in quality, and is much improved when compared with the work a few years ago. Nearly all the men are working in an excellent spirit and take pride in keeping their buildings in good condition.

LATIN SCHOOL.

The following table shows the membership of the Latin School and the cost of instruction from year to year for five years : —

December	Average Number of Pupils	Number of Teachers in December	Cost of Instruction	Cost per Pupil	Number of Graduates
1901	468	22	\$23,710 34	\$50 66	56
1902	465	24	25,236 00	54 27	62
1903	474	23	25,472 00	53 74	49
1904	487	23	26,275 50	53 95	50
1905	531	24	26,711 51	50 30	70

The cost of the Latin School to the city is less than the above sums by the amount received for the tuition of non-resident pupils. The amount received this year was \$680.

The course of study is arranged for five years, or for four years, and is almost wholly decided by the requirements for admission to Harvard University. Nine and six-tenths per cent of all the graduates have completed the work in four years. The following is the rule relating to the admission of pupils to the high schools : —

"Pupils who have received the diploma of a grammar school may, on recommendation of the master, be admitted to either high school without an examination. For other persons who desire admission, an examination shall be held at the beginning of the autumn term under the direction of the superintendent, but pupils who are qualified to join existing classes may be admitted at any time on application to the principal. No pupil from any grade in a grammar school shall be examined who does not present a satisfactory certificate of having pursued the required studies during the summer vacation."

From three-fourths to four-fifths of the graduates are usually recommended for admission without an examination. About one-half of the remaining part study during the summer vacation, as required by the rule, and take an examination in September. Pupils who pass a fairly good examination are permitted to attend either high school until the Christmas vacation, at which time their connection with the school as regular pupils ends unless their work has been satisfactory.

Diplomas of graduation signed by the mayor and the head master of the school are awarded to pupils of the high schools who have successfully completed the course of study or its full equivalent, and have sustained a good character.

For non-resident pupils the tuition is \$80 a year, payable one-half at the beginning, and the other half at the middle of the school year. The sessions of the school begin at 8.30 A. M., and end at 1.30 P. M.

ENGLISH HIGH SCHOOL.

The following table shows the membership of the English High School and the cost of instruction for five years:—

Year	Average Number of Pupils	Number of Teachers in December	Cost of Instruction	Cost per Pupil	Number of Graduates
1901	517	24	\$26,265 58	\$50 80	60
1902	498	24	26,747 51	53 71	86
1903	493	24	27,109 83	54 99	73
1904	556	24	27,070 83	48 69	76
1905	550	24	26,359 41	47 93	75

This school has for its object the preparation of its pupils for entrance upon active life. It has three distinct courses of study. The plan of the courses is that all pupils in the school shall pursue substantially the same subjects for their first year, but thereafter shall have increasingly divergent studies, open to choice within reasonable limitations and determined largely by aptitude and expectation of subsequent career.

The general course provides a broad, liberal training for boys and girls who expect to end their academic education with the high school, and includes all subjects which are required for preparation to enter the State normal schools. All who propose to become teachers in grammar or primary schools should take this course.

The commercial course is designed to combine with studies which cultivate the mind in a broad way certain others which give special power in processes needed in business life. Bookkeeping is provided in the second year, shorthand and typewriting in the third and fourth, and economics in the fourth. This course should be taken by those boys and girls who expect to enter a commercial career.

The domestic science course is intended for those girls who, while gaining culture of mind, wish also to train the hand in arts that are needed constantly in the home. In the second year they work in wood with tools suitable to their strength, and take up dressmaking. In the third year they learn cooking by theory and practice. In the fourth year they continue their cooking, and deal with the preserving of fruits, with sanitation, and with other problems of household economy.

The requirements for admission to this school and the rules relating to the granting of diplomas are the same as for the Latin School.

For non-resident pupils the tuition is \$80 a year, payable one-half at the beginning, and the other half at the middle of the school year. The sessions of the school begin at 8.30 A. M., and end at 1.30 P. M.

RINDGE MANUAL TRAINING SCHOOL.

The following table shows the membership of the Rindge Manual Training School and the cost of instruction from year to year for the past five years:—

Year	Average Number of Pupils	Number of Teachers in December	Cost of Instruction	Cost per Pupil	Number of Graduates
1901	191	14	\$17,988 33	\$94 18	21
1902	242	15	19,108 67	78 96	23
1903	262	16	21,125 50	80 63	38
1904	315	19	23,167 16	73 55	30
1905	396	22	26,487 00	66 89	32

The cost of the Rindge Manual Training School to the city is less than the above sums by the amounts received from Harvard University for the instruction of a class of students during the summer vacation, and for the tuition of non-resident pupils. The amount received this year from both sources was \$4,730.50.

The course of instruction covers four years. Proper emphasis is given to the academic features of the course, and the work is made interesting and effective by bringing it into intimate relation with instruction in the mechanic arts.

The manual dexterity and the thorough knowledge of tools, machinery, and mechanical processes acquired in the shops, at an age when time can be most easily spared for such training, is of inestimable value in any scientific pursuit.

The sessions are five and one-half hours a day, instead of five as in the other high schools. About one-third of the time is given to the work of manual training, and the remainder to the subjects usually taught in high schools, with the exception of Latin and Greek.

The requirements for admission to this school and the rule relating to the granting of diplomas are the same as for the Latin School.

For non-resident pupils the tuition is \$150 a year, payable one-half at the beginning, and the other half at the middle of the school year. The sessions of the school begin at 8.30 A. M., and end at 2 P. M.

The following is from the report of the committee on high schools:—

In accordance with Section 30 of the Rules of the School Board, the committee on high schools begs leave to submit the following as its annual report for the year 1905:—

There has been no change in the administration of our high schools during the past year.

In the Latin School there has been a marked increase in the number of pupils. The number registered in 1904 was five hundred sixteen, whereas that in 1905 was five hundred sixty-four, making the largest number ever registered in the school, and the greatest increase over the previous year for more than ten years except in 1901.

There are more substitute teachers in the school at present than usual. Three regular teachers are absent in accordance with Section 69 of the Rules of the School Committee. We very much regret the absence of Miss Helen W. Munroe from the school on account of the death of her father, Mr. William A. Munroe, who for thirteen years was a valued member of this Board and for several years chairman of this committee and from whom this school was the recipient of many valuable gifts.

Mr. Adams, an able and efficient teacher, who has been connected with the Latin School for the past thirty-six years, returned at the opening of the school in September, after having his sabbatical year abroad. But, after a few weeks' work, it became necessary on account of illness in his family for him to leave the city and it is very doubtful if he will ever take up his work again in the Cambridge schools.

In 1900 the number of teachers in the Latin School was twenty-two and the number of pupils registered was four hundred thirty. This year the number of teachers is twenty-four and the number of pupils registered five hundred sixty-four, one hundred thirty-four more pupils, and only two more teachers. At that time nearly every teacher had one hour a day for helping pupils who were in need of individual attention. Now very few teachers have time for this work during school hours. It is considered very desirable for all teachers, and especially for the teachers of the entering class, to have time in school sessions to devote to pupils who need assistance and encouragement. We recommend that one male teacher at least be added to the teaching force of the school next year, as there are but three permanent male teachers in the school at the present time.

A few words in reference to the Charity of Edward Hopkins may be of interest. Edward Hopkins who established this fund for classical education in Cambridge was born near Shrewsbury, England, in 1600. He was educated in the Royal Free Grammar School of that town and followed mechanical and commercial pursuits in London by which he accu-

culated a considerable fortune. He became early in life imbued with the idea of worshipping God according to the dictates of his own conscience. Consequently, he came to this country with personal friends in 1637. He joined the settlement at Hartford and later was elected for several years governor of that colony at Connecticut. He returned to England in 1653 and died in London in 1657. A full account of his bequests and the disposition of them up to 1854 will be found in the report of the school committee of Cambridge for 1885, at which time an agreement was entered into between the trustees of the Charity of Edward Hopkins and the city of Cambridge "whereby the income of the Hopkins Fund, as has been heretofore appropriated to the support of the said classical school, shall be paid over to the treasury of the city of Cambridge, as provided for by act of the legislature passed in 1839. The city of Cambridge on its part agrees that the money thus paid out by the trustees to the treasury of the city of Cambridge shall be subject to the order of the school committee, to be by it appropriated exclusively to the improvement of the means of classical instruction in the high school under its charge. The understanding and agreement between the parties is that the money thus derived from the Hopkins Fund shall be considered as so much added to the provisions already made by the city for said high school, and that the benefits of the same are to accrue exclusively to boys in said high school preparing for college.

"It is also agreed that the city of Cambridge, so long as said portion of the income of the Hopkins Fund is paid into the said treasury, shall receive into said high school and admit to all the privileges and advantages thereof, free of expense, any number of boys, not exceeding nine, at any time, who being properly qualified, shall be selected for admission thereto by the President and Fellows of Harvard College and the Minister of the First Church of Cambridge."

This agreement is practically still in force, but can be terminated at the will of the trustees of the Hopkins Fund whenever they reopen the Hopkins Classical School.

It appears that ever since the income from this fund was turned over to the city treasurer in 1854, it has remained in the general fund of the city and has been used as much to build streets for the city as for the means of development of classical education. In fact it has been used to lower the tax rate in the city.

The disposition of this fund came to the attention of the trustees of the Charity of Edward Hopkins. They at once requested that the school committee of the city of Cambridge appropriate in some distinctive way the income paid yearly to the city treasurer for the improvement of the means of classical education in the Latin School. This communication

was referred to the committee on high schools, which recommended that the income be used in the following way :—

First.—To defray the cost of tuition at the regular rate of those boys, not exceeding nine, who have been selected and presented for admission by the President and Fellows of Harvard College and the Minister of the First Church in Cambridge.

Second.—To award a prize of one hundred dollars to be known as the "Hopkins Prize" to the boy in the graduating class, who, in the opinion of the chairman of the high school committee, the superintendent of schools and the Hopkins classical teacher, is most worthy in respect to scholarship, character and need. This prize is to be awarded at the beginning of June, and is to be paid in two equal parts, one early in October, provided the prizeman has begun his college course, and the other early in March, provided he has successfully passed his mid-year examinations. An alternate may also be selected on the same basis to whom the prize shall be awarded, in case the man first selected fails to meet the conditions named.

Third.—To use the balance each year in the purchase of books for the library of the Latin School for the use of improving the means of classical instruction in that school for boys preparing to enter college, and to have these books appropriately marked.

This fund, which is paid to the city treasurer annually in May, has been used in part the past year in the following way :—

Tuition of three pupils	\$136 00
One-half of the Hopkins Prize	50 00

The first scholarship awarded under the new agreement for the use of the income of the Edward Hopkins Fund was given to Leslie F. Ellsbree of the class of 1905. He ranked second in the class and stood first among the young men. The present year four pupils have been designated by the President and Fellows of Harvard College and the Minister of the First Church as deserving of the benefits of this fund, and it is expected that they will continue in the school throughout the year.

It is not probable that more than four or five pupils in any one year will avail themselves of this fund, and the number of books that can be purchased for the purpose of improving the means of classical instruction in the Latin School is limited. The committee recognizes the advisability of awarding a prize of one hundred dollars to be known as the "Hopkins Prize" to a girl in the college preparatory class under the same conditions as the prize now offered to boys.

During the year the Latin School has had gifts as follows: — A large plaster cast of Hebe from the class of 1905. Twenty-five framed photographs from Mr. and Mrs. Joshua Kendall. Mrs. Kendall was a member of the school board for fifteen years and has taken a great deal of interest in our high schools.

The changes in the courses of study in the English High School, which went into effect at the opening of the school in September, 1904, were quite sweeping and have been in operation during the past year. The course preparatory for the scientific schools, or the scientific course, was eliminated as the number of boys taking this course had been growing smaller each year; and, as it was practically a duplicate of the course given at the Rindge Manual Training School, it was thought best by the committee appointed to revise the course of study in the schools to drop it, and the commercial and general courses were enlarged and enriched in the hope that this might increase the number of boys admitted to this school. But this change has not had the desired effect, as there were but twenty-four boys admitted at the opening of the school in September, 1904, and nine in September, 1905. The total number of boys in the school at the present time is sixty-three. It would seem that the ultimate disappearance of boys from the English High School is fast becoming an assured fact, unless some changes in the course of study be devised that will make this school more attractive to boys entering our high schools.

The number of teachers in the English High School has remained the same for several years. At the opening of the school in September there was missed from the teaching force Miss Emma Adeline Scudder who retired from active teaching at the close of the school year. She was first appointed September 20, 1864, when Dr. William J. Rolfe was head master. Inasmuch as she graduated from this school in 1858 after spending the previous four years in the school, she has the unique record of having been associated as pupil or assistant teacher with every head master who has had charge of the school, either of the undivided Cambridge High School or of the Cambridge English High School. The head master pays her the following tribute: —

“ Her forty-one years of service have been characterized by remarkable regularity of attendance, efficiency of work and sweetness of spirit. The years have dealt lightly with her as respects health and vigor, and the end of her teaching found her still cheerful in manner, successful as a teacher and ready for all the emergencies of the schoolroom. Heradroitness of nature and capacity for detail were not only manifested in the progress of her daily work in her principal subject, botany, but appear in the admirable form in which cabinets of botanical specimens and appliances were left for the use of her successor, and also in a portfolio

which she has given to the school containing a vast amount of printed and other material bearing upon the history of the old high school, and particularly of the English High School since its origin. Her presence is greatly missed by teachers and pupils."

The course in stenography and typewriting has become very popular with the girls, and it has been necessary this year to purchase three additional typewriters to meet the demands of this course. The only available room in which this course can be taught was formerly a cloak room in which the light is insufficient for its present use. Now that the class has become larger, the room is overcrowded; and with the prospect of a still greater increase, and with no room for the organization of the class in dressmaking, which is a part of the domestic science course, it is the opinion of this committee that additional room should be provided by the extension of one of the wings of this building before the opening of the schools in September, 1906. This would make it possible to remove the classes in cooking from the basement.

A fine photograph of Guido Reni's Aurora, which hangs on the west wall of the assembly room, was received from Miss Carrie F. Abbott in memory of her brother, Emery Willard Abbott, a member of the class of 1874, who died shortly after his graduation.

The course in physical training in the English High and Latin schools is becoming more popular each year, as there has been a steady increase of girls taking this course since the gymnasium was reopened in 1902. The number has increased from two hundred thirty-two in 1902, to four hundred sixty-seven in 1905. This goes to show not only that four hundred sixty-seven girls are desirous of taking this course, but that the parents are equally anxious that their children should have some physical training in connection with their high school work, as no girl is permitted to enter the classes until the parents have requested it by signing an application blank furnished by the school committee. The work and results are as satisfactory as could be expected when we consider that the classes are large and that there is no apparatus for carrying on the work. This committee would call the attention of the Board to the advisability of including a gymnasium in the basement, when the plans are made for an addition to the English High School building.

The changes which have taken place the past year in the plant of the Rindge Manual Training School have been the most important since it was founded by Mr. Frederick H. Rindge in 1888. The entire Washington building was occupied by this school for the first time at the opening of the school in September.

In consequence of the increased number of pupils in each class a request of this committee for increased facilities and changes in sanitary

conditions was met by the city government by an appropriation of \$20,000. Of this amount, \$13,000 was expended by the public buildings department, and \$7,000 by the school department. The basement of the mechanical building has been completely remodeled, windows enlarged, toilet facilities renewed and two hundred sixty lockers installed. These improvements make our basement facilities a model of their kind. The buildings department has also installed one hundred ninety lockers in the Washington building.

Our foundry is light and airy as compared with the old conditions. The school department has purchased ten lathes for the machine shop. One of these has been installed in the demonstration room of the second floor of the mechanical building. The others are now installed and in use in the machine shop. Seven soldering furnaces have also been added to the equipment of this building. The head master reports that the pupils are now building a surface grinder which will be installed within a few months. The necessary small tools have been provided for the larger classes.

The carpentry department has been transferred to the second floor of the shop building and twenty-seven benches and accompanying tools added to the old equipment. A double grindstone has been purchased and connected with the shafting. The wood turning has been enlarged by taking a space formerly occupied by the carpentry department and thirteen lathes have been added; also the small tools required to complete the equipment, including a multiple glue pot.

The drawing department now occupies three rooms in the Washington building, and the necessary tables, drawing boards and racks have been provided by the committee on supplies.

A chemical laboratory has been equipped in the science building for classes of thirty pupils. This relieves the physical laboratory and gives us a science equipment equal to any of its size.

The lunch room occupies the large hall in the science building and the adjacent room.

The school is now equipped for five hundred pupils, with the exception of some slight additions to furniture and cabinets in some of the shops and the addition of fifty lockers which were asked for last year.

The teaching force has been increased by the addition of two teachers in the academic department and one teacher of free-hand drawing.

A physical director is needed for the boys in our high schools in order that they may receive the benefits of proper athletic training. The hall in the science building of the Rindge Manual Training School could be equipped and would make a suitable gymnasium.

MANUAL TRAINING IN OTHER SCHOOLS.

The statutes require that every town and city of twenty thousand or more inhabitants shall maintain, as part of both its elementary and its high school system, the teaching of manual training. The Rindge Manual Training School gives the required instruction to boys of the high school grade, and provision is made in the English High School for girls of this grade, sloyd being taught in the second year, and cooking in the third. Sewing in the grammar schools may be considered as meeting the requirements for girls in the grammar school grades.

The requirement that manual training shall be taught in elementary schools as well as in high schools has not been fully complied with. Provision has been made for the teaching of this subject in only two of the grammar schools during the past year, the Putnam and the Roberts, these being the only schools which have manual training equipment.

In the Putnam School instruction has been given to the boys from one seventh, two eighth, and two ninth grades, and in the Roberts School to the boys from two seventh grades and one eighth grade. The average number of pupils in each class has been twenty. The course of instruction has been based upon, but not wholly confined to, suggestions and principles derived from Larsson's "Sloyd for American Schools."

The superintendent hopes that in the near future provision will be made for the teaching of manual training in all the grammar schools, as required by statute. The work of manual training in all the schools is under the direction of the head master of the Rindge Manual Training School.

WELLINGTON TRAINING SCHOOL.

This school was opened in September, 1884, and differs from the other schools in this respect, — all the grades, except the eighth and ninth, are taught by young teachers. Their work, however, is done under the immediate supervision of a master and three assistants, who are held responsible for the instruction and management of the school. For several years the seventh grade has been taught by a graduate of the training class.

The object of conducting a school on this plan is to give Cambridge young women who desire to teach, and who have made special preparation for the work, an opportunity to gain experience under conditions favorable to their own success, and without prejudice to the interest of their pupils.

Graduates of the English High School or of the Latin School, who have also graduated from one of our State normal schools, are preferred candidates for the position of teacher in this school. Other persons of equal preparation may be appointed.

The required term of service is one year. Teachers are appointed on probation, and may be excused or dismissed at any time by the superintendent, with the approval of the committee on the training school.

No teacher is considered a graduate of the school until by vote of the training school committee she is admitted to the graduate class, which is known as class B.

The money compensation for the first three months, and until satisfactory service is rendered, is at the rate of two hundred dollars a year. For the remaining part of the year it is at the rate of two hundred fifty dollars.

Graduates temporarily employed as teachers in this school are paid at the rate of three hundred dollars a year. Graduates selected to act as substitutes in any school are paid at the rate of four hundred fifty dollars.

That the direct influence of the school may be continued, it is the duty of the master, or of one of the supervising teachers, occasionally to visit the schools of the graduates who are teaching in Cambridge. The school contains all the grades of the grammar and primary schools and a kindergarten.

By the rules of the school board the superintendent is authorized to employ as many substitutes and temporary teachers as may be necessary to take the places of absent teachers. These teachers are usually assigned to the Training School, when not otherwise employed, that there may be at this school a sufficient number of teachers to make it practicable for the members of the training class to visit other schools.

The following is from the report of the committee on the Wellington School:—

- Another year of successful work has been completed by the Wellington Training School. No changes have been made in the regular corps of teachers, and the usual number of pupil teachers has been employed to carry on the school.

Your committee would recommend that the old wooden building, which is totally unfit for further use on account of its unsafe sanitary conditions, be replaced by a new structure. The new building should contain the primary grades and the kindergarten connected with the Training School.

Between September, 1904, and September, 1905, twenty-four pupil teachers have been admitted to the school. Of that number, twelve have been voted to class B, five are still connected with the school, and seven have severed their connection with the school in order to engage in other work or to teach in other cities.

The school contains all of the primary and grammar grades and a kindergarten, the number of pupils being about eight hundred.

GRAMMAR SCHOOLS.

The number of pupils in these grades on the first of December was seven thousand seventy-three and the number of teachers, including masters and special teachers, was one hundred ninety-one.

The cost of instruction for each pupil for the year has been \$21.27. This does not include the cost of supervision or the cost of the Wellington School.

For non-resident pupils the tuition is \$30 a year, payable one-half at the beginning, and the other half at the middle of the school year.

The course of study is for six years, but the schools are so classified as to give the pupils an opportunity to complete the course in four years, or in five years. The average age of those who entered the grammar schools last September was nine years eight months. The number of graduates in June was seven hundred twenty, their average age being fourteen years ten months. Of these, 6 per cent completed the course in four years, 28 per cent in five years, 53 per cent in six years, and 13 per cent in seven years or more.

Pupils are promoted by classes from the primary schools at the beginning of the autumn term; but individual pupils may be promoted at other times, if it is deemed expedient by the supervisor of primary schools and the superintendent.

Promotions from grade to grade in the grammar schools, and from the grammar to the high schools, are made by the teachers under the direction of the masters and the superintendent. Pupils qualified to join existing classes may be admitted at any time on application to the master of the school. No regular pre-announced examinations are held in these schools, but the results of such written exercises and reviews as the teachers and masters may require from time to time may be used as a part of the basis of promotion.

The thoroughness with which the work is done in the grammar schools is shown in part by the ability of the pupils to do the work in the high schools. The pupils are admitted to the high schools on trial; and, by the rule of the high school committee, any pupil who fails to maintain a suitable rank is reported to that committee, and no pupil thus reported can continue in either high school, except by special vote. For the past four years, however, provision has been made by which pupils in the entering class, whose record at the time of the Christmas recess was such that promotion at the end of the year would be impossible, have been allowed to remain in the English High School and receive such instruction as would best fit them to enter again upon the regular work of the school at its reorganization in September. A similar provision has been made at the Latin School this year.

In the grammar schools, special teachers are appointed to help such pupils as seem able to do the work in less than six years, and to aid those who without personal instruction would require more than six years. This action of the committee removes the most serious objection to the graded system of schools.

The course of study is divided in two ways: (1) into six sections; (2) into four sections; each section covering a year's work. Pupils taking the course in six years are classified in six grades, called the fourth, fifth, sixth, seventh, eighth, and ninth grades. Those taking it in four years are classified in four grades, called grades A, B, C, and D. When pupils are promoted to the grammar schools they begin the first year's work together. After two or three months they are separated into two divisions.

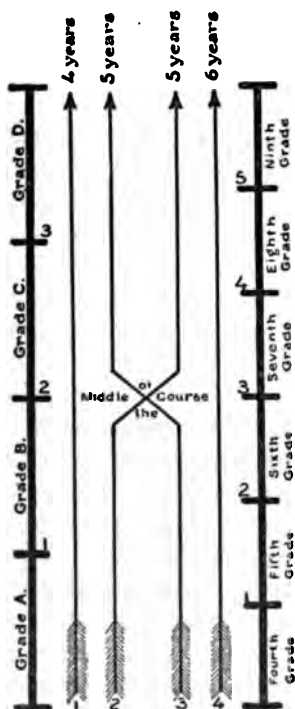
One division advances more rapidly than the other, and during the year completes one-fourth of the whole course of study. The other division completes one-sixth of the course.

During the second year the pupils in grade B are in the same room with the sixth grade. At the beginning of the year they are five months

(one-half the school year) behind those in the sixth grade. After two or three months grade B is able to recite with the sixth grade, and at the end of the year both divisions have completed one-half the course of study — the one in two years, and the other in three years. The plan for the last half of the course is the same as for the first half, the grades being known as the seventh, eighth, and ninth in the one case, and as C and D in the other.

There are also two ways of completing the course in five years: (1) any pupil who has completed one-half the course in two years may, at the end of that time, be transferred to the seventh grade, and finish the course in three years; (2) any pupil who has completed one-half the course in three years may, at the end of that time, be transferred to grade C, and finish the course in two years. In both cases these changes can be made without omitting or repeating any part of the course.

It is now fourteen years since the schools



Arrow No. 1 indicates the four years' course; grades A, B, C, D. Arrow No. 2 indicates one of the five years' courses; grades A, B, 7, 8, 9. Arrow No. 3 indicates the other five years' course; grades 4, 5, 6, C, D. Arrow No. 4 indicates the six years' course; grades 4, 5, 6, 7, 8, 9.

were classified on this plan. During this time eight thousand two pupils have graduated from the grammar schools. Of this number, 7 per cent completed the course in four years, 29 per cent in five years, 49 per cent in six years, and 15 per cent in seven years or more.

Of the number who entered the Latin School during the past eleven years, 14.8 per cent did the work in the grammar schools in four years, 43.4 per cent in five years, 39.0 per cent in six years, and 2.8 per cent in seven years or more. Of those who entered the English High School and took the general course, 9.0 per cent did the work in the grammar schools in four years, 36.3 per cent in five years, 44.1 per cent in six years, and 10.6 per cent in seven years or more; of those who took the commercial course in the English High School, 8.2 per cent did the work in the grammar schools in four years, 32.8 per cent in five years, 51.5 per cent in six years, and 7.5 per cent in seven years or more. Of those who entered the Rindge Manual Training School, 4.4 per cent did the work in the grammar schools in four years, 31.7 per cent in five years, 51.7 per cent in six years, and 12.2 per cent in seven years or more.

During the past eleven years more than 45 per cent of the pupils entering the high schools did the work in the grammar schools in less than six years, 36.8 per cent doing it in five years, and 9.7 per cent in four years. It does not follow, however, that because so many did the work in less than the full time, the plan is a good one. Its value is shown, rather, by the thoroughness with which the work has been done, not in one year only, but in a series of years. The results of the first year's work in the high schools would seem to be a test of this thoroughness. The records in these schools show that for eleven years the marks of the pupils who were four years in the grammar schools were higher than were the marks of those who were five years in the grammar schools; and that the marks of those who were five years in the grammar schools were higher than were the marks of those who were six years in the grammar schools.

The average per cents of the first year's work in the different high schools for eleven years are as follows:—

In the Latin School the average per cent of the pupils who completed their grammar school work in four years is 80.1; of those who completed it in five years, 76.0; of those who completed it in six years, 72.2.

In the general course of the English High School, the average per cent of the pupils who completed their grammar school work in four years is 78.2; of those who completed it in five years, 75.9; of those who completed it in six years, 73.4.

In the commercial course of the English High School, the average

per cent of the pupils who completed the grammar school work in four years is 73.7; of those who completed it in five years, 72.8; of those who completed it in six years, 70.2.

In the Rindge Manual Training School, the average per cent of the pupils who completed the grammar school course in four years is 72.5; of those who completed it in five years, 69.3; of those who completed it in six years, 68.0.

The following table will be of interest as showing the results of the first year's work in the high schools of the eleven classes from 1895 to 1905 inclusive:—

IN THE LATIN SCHOOL.

RECORD OF ELEVEN DIFFERENT CLASSES	FOUR YEARS IN GRAMMAR SCHOOLS	FIVE YEARS IN GRAMMAR SCHOOLS	SIX YEARS IN GRAMMAR SCHOOLS
First Year in High Schools	Average per cents in High Schools	Average per cents in High Schools	Average per cents in High Schools.
Class of 1895.....	78.7	78.9	76.4
Class of 1896.....	80.4	77.0	71.6
Class of 1897.....	79.3	72.5	66.9
Class of 1898.....	77.1	72.3	67.8
Class of 1899.....	80.0	73.0	61.8
Class of 1900.....	81.1	75.9	75.4
Class of 1901.....	79.6	75.2	70.1
Class of 1902.....	81.0	77.5	74.7
Class of 1903.....	83.0	79.1	74.7
Class of 1904.....	81.0	76.6	75.9
Class of 1905.....	78.2	77.8	73.5

IN THE ENGLISH HIGH SCHOOL, GENERAL COURSE.

Class of 1895.....	77.3	76.2	73.4
Class of 1896.....	85.9	75.1	76.4
Class of 1897.....	79.7	78.7	72.2
Class of 1898.....	77.6	75.8	77.0
Class of 1899.....	75.6	75.1	69.1
Class of 1900.....	79.2	73.4	71.1
Class of 1901.....	72.8	75.2	73.2
Class of 1902.....	82.2	75.3	74.3
Class of 1903.....	86.6	77.0	72.7
Class of 1904.....	75.3	76.6	75.4
Class of 1905.....	76.7	75.3	74.0

IN THE ENGLISH HIGH SCHOOL, COMMERCIAL COURSE.

RECORD OF ELEVEN DIFFERENT CLASSES	FOUR YEARS IN GRAMMAR SCHOOLS	FIVE YEARS IN GRAMMAR SCHOOLS	SIX YEARS IN GRAMMAR SCHOOLS
First Year in High Schools	Average per cents in High Schools	Average per cents in High Schools	Average per cents in High Schools
Class of 1895	73.7	73.5	69.8
Class of 1896	74.8	70.9	68.4
Class of 1897	76.3	69.0	69.3
Class of 1898	75.7	73.8	69.5
Class of 1899	69.5	68.5	68.9
Class of 1900	69.2	73.6	72.5
Class of 1901	76.0	73.6	70.5
Class of 1902	74.9	75.5	73.3
Class of 1903	74.3	76.6	70.9
Class of 1904	72.7	73.1	69.6
Class of 1905	75.7	74.1	69.8

IN THE RINDGE MANUAL TRAINING SCHOOL.

Class of 1895	72.6	65.4	65.9
Class of 1896	79.3	63.5	65.2
Class of 1897	78.6	67.2	61.7
Class of 1898	81.7	69.5	68.9
Class of 1899 .....	....	67.5	67.8
Class of 1900	72.6	69.6	68.0
Class of 1901	80.0	67.8	68.4
Class of 1902	80.4	71.9	69.2
Class of 1903	70.4	73.5	70.3
Class of 1904	76.2	71.6	68.7
Class of 1905	64.8	68.7	68.7

The results already given are based on the first year's work in the high schools. For five years results have been obtained based on the full course in the high schools. During these five years, two hundred eighty-seven have graduated from the Latin School. Of these two hundred eighty-seven, two hundred twenty were graduates of the Cambridge grammar schools. Of these two hundred and twenty, thirty-eight did the work in the grammar schools in four years, and their average per cent for the Latin School course was 82.8; one hundred twenty-four did the work in the grammar schools in five years, and their average per cent for the Latin School course was 76.7; fifty-five did the work in the grammar schools in six years, and their average per cent for the Latin School course was 75.0; three did the work in the grammar schools in seven years and their average per cent for the Latin School course was 71.7.

During these five years, three hundred sixty-nine pupils have graduated from the English High School. Of these three hundred sixty-

nine, three hundred six were graduates of the Cambridge grammar schools. Of these three hundred six, twenty-five did the work in the grammar schools in four years, and their average per cent for the high school course was 76.7; one hundred twenty-one did the work in the grammar schools in five years, and their average per cent for the high school course was 75.9; one hundred thirty-nine did the work in the grammar schools in six years, and their average per cent for the high school course was 75.0; twenty-one did the work in the grammar schools in seven years, and their average per cent for the high school course was 73.3.

PRIMARY SCHOOLS.

The number of pupils in these schools on the first of December was five thousand eight hundred fifty-four, and the number of teachers was one hundred forty-four.

The cost of instruction for each pupil for the year has been \$17.29. This does not include the cost of supervision or the cost of the Wellington School.

For non-resident pupils the tuition is \$20 a year, payable one-half at the beginning, and the other half at the middle of the school year.

The course of study is for three years. Children five years old are admitted to the first grade at the beginning of the school year and during the first week in March. Pupils qualified to join existing classes may be admitted at any time on application to the principal. At the present time, 39 per cent of the pupils are in the first grade, 30 per cent in the second, and 31 per cent in the third.

One thousand four hundred twenty-seven pupils graduated last June at an average age of nine years six months. Of these, 3 per cent completed the course of study in less than three years; 60 per cent in three years; 6 per cent in three and a half years; and 31 per cent in four years or more.

Promotions from grade to grade in the primary schools, and from the primary to the grammar schools, are made by the primary teachers, under the direction of the supervisor of primary schools and the superintendent. Promotions by classes are made annually at the beginning of the autumn term; but individual promotions are made at other times if it is deemed expedient by the supervisor of primary schools and the superintendent.

Pupils are promoted to the grammar schools on trial, and those who show by their work that they are unprepared are returned to the primary schools on the approval of the supervisor of primary schools and the superintendent.

Once a month the teachers of each primary grade meet the directors of special studies and the supervisor of primary schools. These meetings are held in the English High School building on Wednesday afternoons, half an hour after the close of the schools. The work for the coming month is planned; criticisms and suggestions in regard to methods are made; and questions from the teachers are answered and discussed.

Occasionally specimens of written work from all the pupils are brought for examination. In this way the amount of work done in the schools is made somewhat uniform; new teachers are kept informed as to the requirements, and pupils lose less time when a change of teacher or school becomes necessary.

The supervisor of primary schools writes as follows:—

Few changes from last year have occurred in the plan of work in the primary schools; but there has been a gain in results, especially in reading. With a surer knowledge of phonics the children are much more independent of help, and are able not only to read more, but to better understand and enjoy what they read.

Enthusiastic experiments made by several teachers in the various methods of teaching reading, have gone to show that the best and most expeditious way to teach phonics is to use the dictionary for a manual and the usual readers for text-books.

During the fall term the teachers have been bringing to the grade meetings suggestions for desk work programs, also materials for use in desk work, and specimens of the children's work. Whatever a teacher found or invented that proved useful to her own class has been freely shared with all the others. This has been especially helpful to teachers working in a grade for the first time.

There is an increasing desire to have a definite spelling program, so that there may be more uniformity in what the different rooms in each building accomplish; and also that one grade may not repeat the work of the preceding grades.

The teachers are expressing a strong desire for desk books containing fresh material and embodying the most recent methods. One more set of readers for each grade could be used to advantage.

Each year emphasizes the inconvenience and inexpediency of continuing children over ten years old in our primary rooms. It is not only a source of mortification to these large pupils, but it is a detriment to the smaller children in many ways.

At present the work of the various programs is very well understood and carried out; so, unless there should be a decided change in the course of study, it would seem as if we could now afford to use some of the program meetings for lectures or papers on subjects of especial interest and helpfulness, from outside sources.

It is only justice to acknowledge the unflagging interest on the part of the teachers, and their earnest endeavors to accomplish their work in the best manner. If discouragement or failure comes it is not due to any lack of faithful effort on their part. To use the comment of a visitor to our schools, "They have learned to work hard and to save time by preventive discipline."

KINDERGARTENS.

The number of pupils in the sixteen kindergartens on the first of December was eight hundred thirty-four and the number of teachers was thirty-two.

The cost of instruction for each pupil for the year has been \$24.61. This does not include the cost of supervision.

To be eligible to the position of teacher in a kindergarten, a person must have had a course in a high school, a course in a kindergarten normal school, a year's experience in teaching either in a kindergarten or a primary school, and must be able to play the piano.

Students in kindergarten normal classes are given opportunities to observe during their two years' course, and are allowed one month's experience in the first primary grade, but it is not deemed expedient for them to observe after graduation.

Teachers in kindergartens are to use their afternoons in visiting the homes of their pupils, with a view of maintaining friendly relations with the parents and of securing regularity of attendance, except when the time is needed for preparation for their work, and they are to make reports on blanks prepared for this purpose. The average number of visits made by both principal and assistant to homes of children is about one hundred fifty.

The following is from the report of the committee on kindergartens: —

On December 1, 1895, there were in Cambridge eight kindergartens with sixteen teachers and four hundred seventeen pupils. On December 1, 1905, there were sixteen kindergartens with thirty-two teachers and eight hundred thirty-four pupils. It is interesting to note that the kindergarten system has exactly doubled in ten years. The average number of pupils in a kindergarten is fifty-two.

At the request of many mothers living in the district, a kindergarten was opened in the Wyman School last March. The Holmes Kindergarten was discontinued and the teacher transferred to the Wyman Kindergarten, which has at present forty-seven pupils and two teachers. In March also was opened the long-needed Parker Kindergarten. This kindergarten has forty-six pupils and two teachers.

In connection with each of the sixteen kindergartens is a mothers' club, well organized and active for the best interests of the children. Several of these clubs are reaching outside their special work to help other good causes.

During the past year the members have had the privilege of listening to valuable papers on such subjects as district nursing, the consumers' league, pure food and the treatment of tuberculosis. The mothers have expressed themselves as greatly indebted to the ladies who have given or provided these lectures.

In January the city lost a teacher of rare qualities by the death of the principal of the Corlett Kindergarten. The vacancy was filled by the promotion of the assistant teacher.

Two other assistants have become principals, one at the new Parker Kindergarten, and one for the year at the Boardman Kindergarten.

There are frequent and urgent requests from parents living in the Morse district for a kindergarten in that district. This would not necessitate a new kindergarten, as the afternoon kindergarten at the Willard building could be transferred if only a room could be provided.

KINDERGARTEN PLAY.

The following account of kindergarten play has been furnished by the principal of the Peabody Kindergarten. It is of interest and value as it shows the carefully arranged plans in accordance with which the play of the kindergartens is managed : —

The use of music and games in the training of children was not original with Froebel, but the *way* in which, and the purpose for which they are used in the kindergarten, are certainly unique.

With other educators they serve either to strengthen the muscles, to give appropriate exercises, or to cultivate gracefulness, while in Froebel's plan, kindergarten play is valuable not only for its effect upon the physical development, but for the sake of the mental and spiritual activity it calls forth.

"By reproducing the life of plants, and animals, of human beings in his games, and by the simple hymns of love and gratitude which he sings, the child is led to understand his three-fold relationship as a child of nature, a child of man and a child of God."

By means of play he is also learning to know himself by seeing what he can do, and then he is revealing himself to others.

Froebel made a collection of songs and games which are in use in the kindergartens today, and the reason we can still use them is because all of them are based upon typical aspects of nature and of human life.

Froebel groups kindergarten games into four general classes, which he calls: (1) Physical plays. (2) Sense plays. (3) Movement plays proceeding from the ball. (4) Intellectual plays.

They are not equally important, but each is needed at some stage of the child's development.

Do not think we exhaust all the games belonging to one group, before playing those of another, for such is not the case.

From the very beginning of the year games belonging to each group are in use, but at first very simple ones, and those in which all can take part.

(1) Physical plays: By physical plays Froebel meant those which were valuable, chiefly as a means of exercising a child's muscles and aiding in his physical development. For instance, we know if we wish to develop a child's legs, we must let him run, jump, skip, etc.; if we wish to develop his chest, back or arms, we must select gymnastic exercises best suited to this purpose.

Instead of doing this in a formal way, however, we say to the children, "You may all be ponies" and away they run; "You may be a squirrel and I will catch you;" "You may take your jump rope and skip;" "You may go rowing or skating;" "You may make a snow man or snow fort and knock it over by throwing imaginary snowballs."

These physical plays are a constant source of delight to the children, who never tire of them but choose them again and again each day during our half hour of games.

(2) Sense plays: By sense plays we mean those games which have as their main object the exercising and training of the five senses, touch, taste, smell, hearing and sight.

One of the games for developing the sense of touch is called "The Mystery Man." The children close their eyes and the "Mystery Man" takes an object from his bag and places it in their hands and they are to tell by feeling alone, what object they have. At first the name alone is given, but later in the year the material and the qualities of the object as well can readily be told.

For the sense of taste, there is a game in which the children while blindfolded are allowed to taste different kinds of food and to tell us what they have eaten.

As in each of these sense games we concentrate on one particular sense to the exclusion of the others, it is easy for us to discover where the children need help and further practice.

(3) Ball games: These games are so numerous it is difficult to know which ones to emphasize. There are games to teach form, number, color, direction, rhythm, games by means of which we help the children to become careful, attentive and skilful.

Beginning with simple rolling while all are sitting on the circle, we next try rhythmic rolling, either counting or singing one, two, three, etc.

When the children have gained some skill and dexterity in handling the balls and have grown more careful and attentive, we begin rolling to hit an object, which trains the eye as well as the hand, then rolling into a small circle, which means using just the right amount of force necessary to take the ball so far and no farther, then bouncing and tossing the ball, more difficult than either.

(4) Intellectual plays: By intellectual plays Froebel meant all those which necessitate thought, reflection and judgment, all plays in which the children represent the activities of the farmer, the carpenter or blacksmith and persons of other occupations; all games where they imitate the movements of windmills or weathervanes, or games which are representations of organic life, when the children play they are birds, butterflies, bees, frogs or flowers.

What the child imitates he begins to understand. Let him represent the flying of birds, or the rapid movement of fishes and his interest in both is quickened.

These games require much more from the child than the simpler physical and sense plays. They are always either an outgrowth of previous experience, or are preceded by a talk or story which is designed to explain the words, and make clear the phases of feeling they illustrate.

For instance, we wish to impress upon children the thought of home and mother love, so we choose a nest to symbolize our own homes, as this is one of the simplest of homes. We show nests of all kinds to the children and talk about them; how they are made, how the birds feed and protect their young.

Then we play the bird's nest game and the children enter into its spirit and for the time being are in imagination father and mother birds caring for their little ones.

This little game not only gives the children an idea of home and mother love, but awakens their interest in birds and their sympathy with nature, and this interest and sympathy we hope will later on lead to a study of nature and to a comprehension of the forces, laws and meaning of nature.

In a game called the pigeon house there is the same thought of the home, but the emphasis is placed on the going away from the home and then returning to it again. The pigeons seem to talk to each other on their return and we suggest to the children that they are telling each other what they have seen and done during their wanderings.

By means of this game we hope the children will be lead to tell their mothers on their return from kindergarten, everything they have done

during the morning, for we believe that if a mother has gained the confidence of her child by her sympathy in the beginning, and if she can hold it, the child will not only tell her all that has happened, but will be apt to refrain from doing what he would not like to tell her about.

Later comes the transition from the home and the family to the helpers of the home. Children must begin to realize that home is not self-sustaining but dependent on outsiders, and they should feel grateful to each for work done.

Faithful service should be appreciated as well as paid for, and the child should early be taught that work is a privilege as well as a duty.

This series of games is introduced by a talk about the luncheons the children have just eaten.

We begin with food because the necessity of it is easy for the children to understand. They may get along without sufficient clothing, or a good home, but want of food or lack of it is always noticed at once.

We ask them "Who gave you your luncheon?" "Where did mother get bread?" "Of what is it made?" "Where did she get the flour?" "Where did the grocer get it?" "Of what did the miller make it?" "Where did he get the wheat?" "What did the farmer have to do to get the wheat?" "Who worked that you might have your lunch?"

Following the same plan, we talk to them of milk and cream, and we have cream brought to the kindergarten and we make butter so that the children may be helped to understand the process. We also take them to a baker's, or to a private house and let them see bread and biscuits made.

From this line of thought comes a series of games, and the farmer, miller, baker, grass mowing, churning and bread making songs.

Until Christmas time, all the representation and intellectual games taught the children are those bearing on the family life and relationships; this last series is intended to bring to the child's notice the fact that every one is working for him.

But with the new year comes a change in our line of thought. As it is a time of summing up one's experiences and forming resolutions we wish to keep the child to an ideal of the simplest kind, to do the duty for which the moment calls.

A clock song or game is taught, for we believe that by imitating the rhythmic utterance of the clock, tick-tack, etc., and the rhythmic swing of the pendulum, the children begin on the one hand to understand the nature of the clock as a measurer of time, and on the other hand to develop in themselves ideals of punctuality and order.

Then in addition to this thought of punctuality — a time for everything and everything at its own time — we emphasize the thought of attention, attending to the duty of the moment.

By means of talks and songs about the light, sun, moon and stars, we try to arouse in the children a desire for something better than personal belongings. We endeavor to show them that the things which really give us the most pleasure are those that all can enjoy.

We wish the children to love truth, honesty and bravery, and hence we make these seem attractive to them, by telling them of the knights and heroes of olden times.

We believe that if we wish the children to gain a spiritual ideal we must present it in a concrete form, in other words if we wish them to be good, we must present goodness in such a way that it will be attractive to them.

Having this thought in mind, we teach a series of knight games, as they are called, and following these come our national songs and soldier games, by means of which we hope to arouse in the children a feeling of patriotism.

In kindergarten we emphasize the fact that soldiers protect our country, and that they are like the knights in being good and brave and willing to leave home and friends in order to serve their country.

Having thus presented the ideal in an attractive form, we next try to have the children realize that there are heroes in everyday life as well, that the ideal is illustrated all around them for any and every one who is doing his work well is embodying an ideal.

With this thought in mind, we take the children in turn to a blacksmith's shop, a wheelwright's and a carpenter's, as three of the most representative trades and after they have seen the activities of each, we teach games illustrating the work, believing that what the child imitates he will begin to understand. We also wish him to respect all kinds of labor, hoping he will realize that work should be appreciated as well as paid for.

Lastly, with the return of spring, we draw the children's attention to the fact of life itself. We take walks during which we observe the leaves which are beginning to grow, and the grass which is becoming greener each day.

We call their attention to the flowering plants in kindergartens, recall their appearance in the fall, their gradual growth, and emphasize the many things that had to be done for them.

We speak of the gardens which every one is making, all the things that must be done, clearing away straw and winter covering so bulbs can come up, fertilizing the soil; preparing the ground for seed which is to be sown, and the necessity, not only of the gardener's care, but of air, light and water.

Then each child is allowed to make a garden and care for it daily, so

that at the end of the year the dependent children, for whom at the beginning everything was done, have now become the care-takers themselves.

From these walks and talks come our points of departure for the spring and the garden games.

From this outline of what we try to do and teach by means of kindergarten songs and games, may be gained an idea of the thought embodied in the plays, of the connection of one with another, and of the fact that no game played in a true kindergarten is taught unless it is really worth while.

SPECIAL STUDIES.

The committee on special studies has the supervision of the instruction in nature study, drawing, music, physical training and sewing.

NATURE STUDY

The work in nature study includes the study of plant and animal life with some study of minerals and of weather phenomena.

The study of plants was first undertaken, and still makes up the larger part of the work. The study of animal life consists mainly of lessons on insects and birds. The mineral work is confined to lessons on common metals and on building stones.

Plants are studied in grades one to four, inclusive; insects in grades one, two, and four; birds in grade four; weather phenomena in grades one to three, inclusive; and minerals in grade four.

Specimens chosen for study are those in which the pupils have a present interest, and all work is based on present experience. It is kept well within the capabilities of the children, yet novel enough to require their best effort. Whenever it is possible, the nature study is made to correlate with the work in other branches.

The results sought are increasing knowledge of facts gathered by observation; familiarity with environment; and a growing sympathy with nature.

The following is from the report presented by the committee on special studies:—

The course of study as outlined for nature work has been followed during the year. No new lines of work have been attempted.

The number of classes taken out-of-doors for study and the number of teachers taking such classes have increased. It seems best that option should be given the teachers in regard to outdoor lessons since the conditions under which they work vary so widely in different parts of the .

city. It is at the same time desirable that this outdoor work be encouraged in order that pupils may learn to study nature itself rather than fragmentary specimens of it.

DRAWING.

The course of instruction in drawing in the primary and grammar grades includes form, color and designing.

The study of form (pictorial representation) is carried through all the grades upon a plan involving type solids and natural forms of leaves, flowers and fruit. Construction drawing of objects and of simple original ornaments is gradually developed by progressive exercises. Geometrical drawing is introduced in the sixth grade and continued through the advanced grades. Drawing from nature receives special attention during the spring and autumn months.

Color is studied in all the grades, colored tablets being used in the primary grades and water colors in the grammar grades. Harmony and mixing of colors are treated as a science in special exercises; while color skill is artistically expressed in original designs and in nature study.

In design, particular attention is given to subjects involving fundamental principles of symmetry, balance, etc., and to methods of working out simple, specific problems in construction and in decoration.

In the English High School, drawing is a required study the first year, and is carried forward upon a plan of which the following is an outline:—

Drawing from objects and from casts, drawing from nature of plant form, drawing to scale, designing (constructive and decorative), and color harmony.

Drawing, designing, or water-color painting, may be taken as an elective study after the first year. The course of lessons includes landscape, still-life, and advanced designing.

In the English High School, the instruction in drawing is given by the director of drawing and his assistant. In the primary and grammar grades, it is given by the teachers under the supervision of the director and his assistant. In the Rindge Manual Training School, there are two teachers of drawing, one of mechanical drawing and the other of free-hand, and the work is done under their immediate instruction.

MUSIC.

The National and Educational Courses in Music are used by the regular teachers in the primary and grammar grades under the supervision of the director of music and his assistant. In the high schools it is given by

the director. Every pupil who is capable of learning to sing is required to give attention to the subject.

In the Latin, English High and Rindge Manual Training schools, forty-five minutes a week are given to the study of musical form and expression as found in choruses, quartettes, etc., from the standard operas and oratorios.

Elementary harmony, counterpoint and composition have been introduced as elective studies for the first and second classes, and boys as well as girls having a special aptitude for music naturally elect these studies, the only requisite being some knowledge of the pianoforte. Pupils of the fourth year in the English High School may elect harmony in place of astronomy, and those intending to go to a normal school are advised to take the course in harmony.

The students are instructed in scale formation, intervals, a logical and comparative view of all true chords, in order to give them the power to construct and resolve these chords for themselves.

The study of harmony is carried well into modulation, and of counterpoint through four simple orders or species, including both the major and minor modes. Harvard College has passed a vote allowing a knowledge of harmony to count in an entrance examination to both Harvard College and the Lawrence Scientific School.

Two periods of fifty minutes each week are devoted to instruction, and occasionally the best compositions of the students are sung or played before the entire school, showing in this way the practical side of the work which will prove an important factor in future teaching.

In the Rindge Manual Training School the young men are taught to sustain their parts without accompaniment in compositions of four part harmony, (first tenor, second tenor, first bass and second bass) the music being selected and arranged for this purpose.

Fifteen minutes a day in the primary, and ten minutes a day in the grammar grades, are devoted to this study; and pupils in the grammar grades are taught to sing and sustain their parts in reading compositions in two, three and four parts.

Memorizing music is a feature in all the grades, including the high schools, and in all graduating exercises it is expected that the music by the pupils will be sung or played without notes. To this end rote singing in all the schools forms a part of the instruction in reading music.

PHYSICAL TRAINING.

The Ling system of physical training is used in the primary and grammar schools. Seven grades are regularly supervised, the classes of

the eighth and ninth grades being supervised only when special request is made by their teachers.

Ten minutes are given each day to the work in the grammar grades and fifteen minutes in the primary grades. The instruction is given daily by the regular teachers in the different classrooms, under the supervision of the director of physical training, who visits each schoolroom as often as time will permit, and who also meets the teachers for special directions from time to time.

During the months of September, October, November, April, May and June, the primary classes have the privilege of outdoor recesses, gymnastics forming a part of the daily program during December, January, February and March only.

Games and marching are freely used until the third year, when a stronger emphasis is placed on formal gymnastics. Games are also frequently used in the lower grammar grades.

The essential aim of the teaching is to make the period one of healthful exercise and recreation, and also to counteract in part the tendency to spinal curvatures and flat chests caused by sitting so many hours a day at the school desks.

SEWING.

Sewing is taught to the girls of the three lower grades in the grammar schools, and to the boys of the fourth grade who desire the instruction. Forty minutes are given to the work once a week in each grade. All the boys are learning to sew, the regular teacher having oversight of their work. The first lessons in sewing are spent in learning the use of the thimble and needle, in threading the needle, making knots, and fastening ends. Running stitches are made during this time on ruled pieces of cloth. Neatness is insisted upon from the beginning. Stamped patterns of stars or circles are worked in running stitch by the more forward. Then basting by measure is taught. Measuring cards are provided for this, and the stitches are made one-half inch in length, with spaces of one-eighth of an inch. All work is upon practice pieces, with colored thread. The first piece has three lines for running stitches and two for basting.

The second practice piece is of double cloth and has two lines of basting. On this piece stitching is taught, the children imitating machine stitching as nearly as possible. Two lines are done by all, and four lines by the best sewers, who also stitch their initials in the centre.

The boys sew on buttons which are brought from home. Strips of cloth for this are basted by those who finish stitching before the others. The shoe button comes first as the simplest, then the two-holed button, then the four-holed. This is the kind of sewing most liked by the boys.

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Those who first finish buttons, baste strips for overhanding. This is the last stitch taught in this grade. Those who wish, bring pretty pieces of cloth and make pin-balls. At the end of the year the boys take home all their work. The girls keep theirs for reference the next year.

The work in the fifth grade begins with folding and basting hems, the practice piece having a half inch hem on one edge, and a quarter inch hem on the other. Hemming is practiced until fairly well done, before beginning the model apron of calico, which is then hemmed on the sides and at the bottom.

In January the aprons are laid aside while gathering is taught. The rule for gathering is copied upon paper, and then practiced upon cloth, with attention to the proper position of the hands. Stroking the gathers follows, and the new work is then applied to the model apron. The gathers are stitched to the belt, and the apron carefully finished.

Model pillowcases are given to those who have time to make them, which gives a little practice in overcasting.

Those who finish the year's work take home all the practice work of the two years.

During the first term in the sixth grade those who completed the fifth grade work are taught to make buttonholes, while the others finish their model aprons. After vacation all begin together upon darning on canvas. This being finished, they learn to run a thin place in stocking material, and then to darn a hole. When the darning is finished, buttonholes are taken up again, and then matched patching. Those who have time for extra work practice feather stitching. Throughout the course great care is taken in securing the ends of the thread in beginning, joining and fastening off. The work now requires the services of two teachers besides that of the director.

The following is the course in sewing: *Fourth Grade.* Running, basting, stitching, sewing on buttons, overhanding and making pin-balls. *Fifth Grade.* Hemming, gathering, stroking gathers, model apron, overcasting and model pillowcase. *Sixth Grade.* Buttonholes, darning on canvas, darning a thin place in stocking, darning a hole in stocking and matched patching.

EVENING SCHOOLS.

The following account of the evening schools is given by Mr. Sanford B. Hubbard, the agent of the school committee, who has the general supervision of these schools:—

There are now eight evening schools, — two drawing schools, one high school, one manual training school, and four elementary schools. In accordance with the Rules of the School Board, there are two terms of the

evening schools. The first term begins on the second Monday of October, and continues every Monday, Wednesday and Friday evening until the end of the week before Christmas. The second term begins on the first Monday, Wednesday or Friday evening after the opening of the day schools in January, and continues thirty-five evenings. The sessions begin at half past seven o'clock and continue two hours. No session is held on the evening of a holiday, or during the vacations of the day schools.

The evening drawing schools are under the supervision of the director of drawing in the day schools. There are two of these schools, one for instruction in mechanical drawing, which occupies three rooms in the Washington building, and one for instruction in free-hand drawing, which occupies one room in the English High School building. In the mechanical school two courses are provided,—a three years' course in machine drawing, and a three years' course in architectural drawing. In the free-hand school provision is made for a three years' course in free-hand drawing. Diplomas are given to graduates of either course.

The evening high school is held in the English High School building, and offers a three years' course of instruction in the following subjects: arithmetic, bookkeeping, algebra, geometry, stenography, English composition, English literature, civics, history, Latin, French and German. Diplomas are granted to graduates of the three years' course.

The evening manual training school is held in the Rindge Manual Training School building and offers courses in machine-shop work, wood-turning, pattern-making and forging.

The evening elementary schools occupy rooms in four of the grammar school buildings, the Putnam, Roberts, Shepard and Webster. Reading, writing, arithmetic, geography, language, history and bookkeeping are taught in these schools in classes, so far as classification is possible, but a large part of the work is individual. No definite course is arranged, but an opportunity is offered to pupils to prepare to enter the evening high school, and certificates are given to those who are qualified to begin work in that school. In addition to the subjects given above, classes in civil service, sewing, dressmaking, millinery, wood-working and mechanical drawing are formed when a sufficient number express an intention to take any one of these courses.

The following table shows the attendance at the evening schools for the year 1904-1905:—

	Number Registered	Average Attendance	Average No. of Teachers*	Average No. of Pupils to a Teacher	Number of Graduates
Mechanical Drawing...	117	75	4	19	17
Free-hand Drawing....	71	40	2	20	8
High School.....	408	179	10	17	15
Putnam School	846	295	23	18	27
Roberts School	698	247	19	18	27
Shepard School.....	195	95	7	14	17
Webster School.....	164	77	6	13	16
Total.....	2,494	1,008	71	14	137

* The principals and curators are not included in these averages.

The following table shows the cost of the evening schools for the year 1904-1905:—

	Cost of Instruction	Cost of Text-books and Supplies	Cost of Light, Fuel, and Janitors	Total Cost	Cost per Pupil
Mechanical Drawing...	\$1,048 00	\$38 03	\$155 73	\$1,241 76	\$16 56
Free-hand Drawing....	443 00	51 51	57 35	551 86	13 79
High School.....	1,709 00	38 34	573 54	2,320 88	12 96
Putnam School	2,497 00	120 93	510 35	3,128 28	10 61
Roberts School	2,106 00	96 25	530 99	2,733 24	11 07
Shepard School.....	996 00	36 81	213 58	1,246 39	13 12
Webster School.....	837 00	44 64	213 58	1,095 22	14 22
Manual Training School	180 00	.....	.....	180 00	.....
Total	\$9,816 00	\$426 51	\$2,253 12	\$12,497 63	\$12 40

During the year 1904-1905, Cambridge maintained seven evening schools occupying forty-two rooms and employing seventy-seven teachers, including the principals. The total registration was two thousand four hundred ninety-four,—one thousand four hundred seventy-five males and one thousand nineteen females, an increase of five hundred thirty-two above the previous year. The average attendance was one thousand eight, an increase of one hundred eighty-six above the year 1903-1904. Forty received diplomas of graduation from the high and drawing schools, and eighty-seven pupils of the lower-grades received certificates for admission to the evening high school.

The exhibition of the work in sloyd, needle work, dressmaking and millinery attracted much deserved attention and was creditable to teachers

and pupils. There was also an attractive exhibition of the work of the drawing school at the end of the term. The social influence and good fellowship which have been developed, especially in the classes in sewing, are of great value in the community, creating a spirit of loyalty and of good will which is too often lacking in our city. It is the wish that this influence may be extended and that the schoolhouses may become centers of education and social intercourse to the people living about them, thus promoting loyalty and good will among the different elements that constitute our community.

In accordance with the vote of the Board in June, 1905, the Rindge Manual Training School was opened in October for evening instruction. Two classes have been formed, one in machine-shop work which numbers thirty, and one in wood-turning and pattern-making with a membership of thirteen.

Mr. Charles H. Morse, the head master of the Rindge Manual Training School, accepted the principalship without pay and is looking carefully after the interests of the school. It is expected that the capacity of the school will be taxed in the near future.

The mechanical drawing school was transferred to the Washington building in October.

It is suggested that lectures on subjects interesting and profitable to the community, classes in singing, and opportunities for meetings for social and intellectual purposes could be provided for in connection with the evening schools or in the schoolhouses where there are evening schools, at a moderate expenditure, which would increase the usefulness of these buildings to the community.

VACATION SCHOOLS.

The following is from the report of the committee in charge of the vacation schools:—

The vacation schools were opened Monday, July 10, and continued five weeks in five school buildings, the English High, Fletcher, Putnam, Shepard and Webster. There were two sessions of two hours each day, one class attending the first session, another attending the second. Pupils of the grammar grades only were provided for.

The older pupils were given a choice of sloyd and drawing (one hour each) or of basketry, cooking or sewing, (two hours each).

The younger pupils were given lessons in drawing, water colors, reading, writing and other subjects made especially interesting by the different methods of instruction.

About twelve hundred children expressed a desire to attend the vacation schools, and received cards of admission, of whom eleven hun-

dred fifty-nine were registered. The average attendance for the term was seven hundred seventeen, which shows that the attendance was not as regular as is desirable and that many ceased to attend before the end of the term. These irregularities were especially noticeable in the attendance of the older pupils, many of whom ceased to attend at the end of the fourth week of the term.

The cost of the schools was \$1,495 for salaries of teachers and janitors, and \$184.64 for supplies, a total of \$1,679.64, or \$2.34 for each pupil based on the average number belonging. This is ten cents less than the expense per pupil last year.

It would seem desirable that the privilege of attending the vacation schools should be offered to the pupils who graduate from the primary schools in June. This would extend the opportunity to some eighteen hundred pupils and would increase the numbers considerably without a corresponding increase of expense.

The following table shows the lines of work in each school and the attendance upon each :—

School	Subject	Number Registered	Average Attendance
English High School.....	Academic.....	52	35
English High School.....	Basketry.....	96	57
English High School.....	Cooking.....	99	63
English High School.....	Sewing.....	52	29
English High School.....	Sloyd and Drawing.....	101	63
Fletcher School.....	Academic.....	87	54
Fletcher School.....	Sewing.....	58	24
Fletcher School.....	Sloyd and Drawing.....	88	54
Putnam School.....	Academic.....	113	64
Putnam School.....	Sewing.....	109	71
Putnam School.....	Sloyd and Drawing.....	71	51
Shepard School.....	Academic.....	46	25
Shepard School.....	Sewing.....	59	41
Webster School.....	Academic.....	83	55
Webster School.....	Sewing.....	45	31
		1,159	717

SCHOOL LIBRARIES AND THE PUBLIC LIBRARY.

The English High School has a library of about three thousand volumes. The Latin School has only about one-third of this number. Comparatively few books of a miscellaneous character have been added to these libraries for several years, the public library meeting the demand for such books. The need of the schools is for books of reference and for sets of books for class study. The library at the Latin School will in

future receive accessions from the income of the Hopkins Classical Fund according to the arrangement described in this report.

The grammar schools, with the exception of the Morse and the Webster, are not supplied with books for general reading. These are obtained from the public library, and during the year sixteen thousand four hundred thirty books have been delivered to the schools.

The following is contributed by the librarian of the Cambridge Public Library:—

The work of co-operation between the public library and the schools was furthered by the purchase in December, 1904, of a large supply of new books, both for the school delivery and for the children's room. The city council not only granted the petition of the trustees to be allowed to expend for this purpose \$500, in addition to the other expenditures for that month, but later made more than good this amount by an increase of \$1,000 in the annual appropriation, of which a fair proportion was to be expended in the service of the travelling libraries and the local stations.

A new plan of co-operation between the public library and the public schools was begun on Friday, January 5, 1906. The plan is to have the pupils of the ninth grade come to the library for special instruction in the methods there employed, and to visit all parts of the building.

During their visit the pupils listen to talks by the librarian and by the assistant who has special charge of the work with the children; they also visit all the departments of the library.

The librarian in his talk calls attention to the size and importance of the Cambridge library, as compared with other libraries of the country. He also gives the following statistics: the number of volumes, over seventy thousand; the total circulation, over two hundred twenty-eight thousand; and its increase during the past year of over thirty-six thousand, being a little more than half the total number of volumes. Added to the increase for 1904 of twenty thousand volumes, the total increase for the last two years has been fifty-six thousand volumes.

The librarian describes the various parts of the building and their uses, emphasizing the fact that the public library, as some one has said, "is the people's university," and that it is important that the pupils should learn how to use it.

The talk given by the children's librarian is in regard to the children's catalogue, and indexes to books. She selects for special illustration, cards of books on the United States, as being important in the work of the schools, and in this way, she shows the working of the card catalogue as a whole, bringing out the important distinctions of alphabetical arrangement under each sub-division of the general subject—United States history.

In the visit to the library, a special opportunity is given to see its working from the inside, especially to enter the stack where the main collection of books is placed, and the local room, from which go back and forth the books for school use and for the local stations. Attention is called to the relics and autographs in the Cambridge Memorial Room, and to the collection of books by Cambridge authors.

TRUANT OFFICERS.

Four officers are employed. The city is divided into four districts, and each officer has assigned to him the schools in one district. Among their duties are the following: to visit each school at least once a day, unless otherwise directed by the agent; to prevent children from loitering about the school premises; to notify the teachers of all cases of contagious and infectious diseases reported by the board of health; to attend the evening schools when so directed by the agent of the Board to assist in the preservation of order, and to visit places of business where children are employed, to see that none are employed unlawfully. They make all complaints for truancy, absenteeism, or school offences at the district court, attend the trials as witnesses, and take boys to the Middlesex County Truant School when they are sentenced.

By the Rules of the School Board the work of the truant officers is done under the supervision of the committee on schoolhouses; and under the direction of this committee, it is the duty of the agent of the Board to consider all cases of truancy, of persistent violation of the rules of the school, of juvenile vagrancy, of unlawful detention from school, of neglect by parents; and of any failure on the part of pupils or parents to comply with the Rules of the School Board or the public statutes relating to school attendance. It is also the duty of the agent to direct the officers to make complaints; to certify to the records in these cases when presented before the district court; and to exercise such supervision of the boys who are sent by the court from Cambridge to the truant school as may be allowed under the statutes.

The four truant officers, Messrs. Cabot, Carmichael, Porter and Riley, have continued to do excellent service as in the past. They have investigated eleven thousand nine hundred eighty-four cases of absence, eight hundred seventy-two of which proved to be truancy; of these, five hundred ninety-two were first offence; one hundred thirty-four, second or third offence; and one hundred forty-six, fifth offence or more.

They have entered complaints against twenty-eight boys. Twenty-one were sentenced for truancy, one as a school offender, and six were put on probation by the court. One of those sentenced for truancy has appealed to the higher court.

The parochial schools are co-operating more heartily with the truant officers to prevent the truancy of boys.

An arrangement has been made by the overseers of the poor whereby children, who are unable to attend school because of lack of shoes, can be supplied through the agent and the truant officers. This will prove a great blessing to many children for "no shoes" is the sad plea of many during the winter. The fund to pay for these shoes is from the "Bridge Fund," a private benefaction and in no way chargeable to the public purse. It is arranged that pupils in the parochial schools participate in the benefit of this arrangement.

The cigarette vice is the worst enemy with which we contend in the matter of truancy and it seems to have renewed its attacks during the recent months. Every boy taken to court bears the stamp of this curse in a greater or less degree. It makes them unreliable at home and at school and saps their physical, mental and moral powers.

At the beginning of the year we had thirty-two boys in the truant school; thirteen have been discharged, and twenty-two sentenced so that there are forty-one, averaging thirty-six, at the school from Cambridge.

The city has paid for the board, clothes and schooling of these boys, \$1,888.26, or \$52.45 each for the year, and nearly all of them have been better clothed and cared for than they have ever been in the homes from which they came.

The school census was taken by the officers and their assistants and shows that there are seven thousand eight hundred fifty-one boys and eight thousand seven girls in the city between the ages of five and fifteen years. This is an increase of one hundred eighty, — one hundred eight boys, and seventy-two girls over last year. The following is the summary of the school census for the year 1905: —

Number of children in the city between five and fifteen, boys, 7,851;	
girls, 8,007	15,858
Number in public schools between five and fifteen	12,327
Number in private schools between five and fifteen	3,213
Number not attending school between five and seven	145
Number not attending school between seven and fourteen	35
Number not attending school between fourteen and fifteen	138
Whole number not attending school between five and fifteen	318
Number in the city between five and six	1,718
Number in the city between seven and fourteen, boys, 5,560;	
girls, 5,628	11,188

The statistics of the private schools obtained by one of the truant officers, show that there are twelve private schools containing three hundred twenty pupils and receiving \$39,630 tuition money. The five

parochial schools contain three thousand seven hundred eighty pupils, giving a total of four thousand one hundred pupils attending other than the public schools.

CONTAGIOUS DISEASES.

In 1894 the board of health, in accordance with the request of the school committee, appointed a physician, whose duty it is to examine all cases of contagious diseases reported, and to direct the exclusion from the schools of all pupils whose presence will, in his opinion, be a menace to the health of others. He reports his action on every case to the secretary of the school committee. The physician issues all certificates authorizing such children to return to school, as provided by Chapter 44, Section 6, of the Revised Laws.

As a further precaution against contagious diseases, the board of health established, February 26, 1896, a system of medical inspection of children in the schools. The city was divided into six districts, in each of which a physician was appointed to visit the schools in that district. The duties of these physicians as now defined are as follows: to visit the schools subject to their inspection during the morning session of every school day; to examine such children as are indicated to them by the teachers; to inspect such other children or such parts of the buildings as they deem necessary for the protection of the pupils, examining at least one school each day; to recommend to the principals to send home immediately any pupil whom they may suspect of having any infectious or contagious disease, and also, in cases of nearsightedness or deafness of pupils, to advise the parents to have the eyes or ears of such pupils examined. On the first of each month, the physicians send a report of their work to the board of health.

The principal of each school is required to read the following at the beginning of each term in all the rooms under his charge:—

“Any teacher or pupil who visits any apartment in which a person has been sick within two weeks, or which has been exposed within that time to contagion of smallpox, varioloid, diphtheria, or scarlet fever, shall not be allowed to attend school until the expiration of two weeks after such visit.”

The truant officers have received notice through the office of the committee and reported to the several schools the following number of contagious diseases:—

Diphtheria	328
Scarlet Fever	144

TERMS, HOLIDAYS, AND SCHOOL HOURS.

The school year is divided into three terms,—the autumn, the winter, and the spring term.

The time for beginning the autumn and spring terms, and for closing the winter and spring terms, is fixed annually at the regular meeting of the committee in February. The autumn term ends December 23. The winter term begins on the first school day after that celebrated as New Year's Day.

The holidays are Saturdays; Thanksgiving Day, with the preceding day and the day following; the twenty-second of February; the nineteenth of April; Memorial Day; the seventeenth of June; and in addition to these, for the high schools, Commencement Day at Harvard University.

The sessions of the high schools begin at 8.30 A. M., and end at 1.30 P. M. The sessions of the Rindge Manual Training School begin at 8.30 A. M., and end at 2 P. M. These schools have a recess of half an hour in each session.

With the exception of the Russell School, the morning sessions of the grammar and primary schools begin at 9 and end at 11.45. The afternoon sessions begin at 2 and end at 4, except during the months of November, December, and January, when they begin at 1.30 and end at 3.30. The grammar schools have no outdoor recess. In the primary schools the principal may, at her discretion, substitute an outdoor recess for the period at present devoted to physical training. The sessions at the Russell School begin at 8.30 A. M., and end at 1.30 P. M.

The sessions of the kindergartens are from 9 A. M. to 11.50 A. M.

There are two terms of the evening schools. The first term begins on the second Monday of October, and continues every Monday, Wednesday and Friday evening, until the end of the week before Christmas. The second term begins on the first Monday, Wednesday or Friday evening after the opening of the day schools in January, and continues thirty-five evenings. Vacations and holidays are the same as in the day schools. The sessions begin at 7.30 P. M., and continue until 9.30 P. M.

TEACHERS, APPOINTMENTS, RESIGNATIONS.

In December there were four hundred fifty-one teachers in the schools, including four unassigned teachers. Forty-three teachers have been appointed during the year, twenty have resigned, and one has died. Nine have been given leave of absence for rest or for some special reason, and six have been given leave of absence for study or travel under the following Rule of the School Board:—

“Any teacher who has served in the city for ten years may, on recommendation of the superintendent and vote of the Board, have leave of absence for one year for purposes of travel or study, and may receive one-third of his salary, provided the amount in no case shall exceed five hundred dollars.”

Since the adoption of this rule in 1896, twenty-three teachers have been given leave of absence,—eleven from the high schools, six from the grammar schools, four from the primary schools and two from the kindergartens.

Four teachers were put on the unassigned list last June, in accordance with the following Rules of the School Board:—

“The superintendent shall prepare and submit to the Board annually in June, a list of teachers recommended by him for re-election.

“On this list he shall designate teachers who have taught in the Cambridge schools for twenty-five years or more and who have attained the age of sixty years, whose election he recommends, to serve in an assistant, temporary or substitute capacity, at a salary of three hundred fifty dollars in grammar or primary schools and of four hundred fifty dollars in the high schools.”

Miss Sarah S. Wells, principal of the Corlett Kindergarten, died January 16, 1905. Mention of her death was made in the school report for 1904. In March, 1905, the following resolution was adopted by the Board:—

“The committee on kindergartens, to which was referred the report of the superintendent of schools on the death of Miss Sarah S. Wells, desires to express appreciation of the loving service which she rendered to the little ones committed to her care, and of the deep interest she took in their home life and training. In the death of Miss Wells the city has lost a teacher of rare qualities of mind and heart.”

Miss Eliza M. Hussey, master's assistant in the Putnam School, resigned in June, but the committee desiring to retain her services, elected her as an assistant teacher in that school. She resigned from that position in November. Her first appointment to a position in the Putnam

School was in 1873, and she was made master's assistant in 1880. Miss Hussey was a teacher of experience when she came to Cambridge and her services became increasingly valuable from year to year. She did her work quietly but she did it effectively, and her influence for good pervaded the school.

QUALIFICATIONS OF TEACHERS.

A person to be eligible to the position of teacher in a kindergarten must have had a course in a high school, a course in a kindergarten normal school, a year's experience in teaching either in a kindergarten or a primary school, and must be able to play the piano; to be eligible to a position in a primary or grammar school, he must have had a course in a high school, a course in a normal school, and a year's experience in teaching; to be eligible to a position in a high school, except in the manual training department of the manual training school, he must be a college graduate. Equivalent preparation may be accepted. Preparation for the work of teaching as shown by years of study, and experience as shown by years of teaching, may be considered in fixing the salaries of teachers at the time of their nomination.

Two months after a teacher has been nominated to a position in a kindergarten or any school below the position of principal or master in a high or a grammar school, two experienced teachers who are not connected with the school in which the nominee is to serve, are designated by the superintendent to examine the teacher so nominated, while at work, and they report in writing to the superintendent; these reports, together with the testimonials and other papers relating to the qualifications and character of the teacher so examined and of all other nominees, are kept on file in the office of the superintendent and are open to inspection by members of the Board only.

The committee on teachers considers all nominations made by the superintendent. This committee confers with the superintendent, considers the reports of the examiners designated by him, makes further inquiry at discretion and reports to the Board.

Any nomination referred to the committee on teachers, unless confirmed, lapses at the expiration of six months, not counting the summer vacation. A person who has failed of confirmation is not to be nominated to a similar position within two years, except on the approval of the committee on teachers.

This committee inquires and reports to the Board in executive session as to the success of any teacher in the employment of the city when so requested by any member of the Board or by the superintendent, and no teacher under such inquiry receives the regular increase of salary, except on the recommendation of this committee.

Under the direction of the superintendent, teachers may visit other schools to observe the discipline and instruction. They may be required to attend teachers' meetings or courses of instruction in methods of teaching for one hour a week. Such meetings may be held on Saturday mornings during term time or at such other time, not in school hours, as the superintendent may direct. Meetings in addition to those indicated above may be held by the superintendent or may be called by him, on request of directors in special subjects.

SALARIES OF TEACHERS AND SCHOOL OFFICERS.

LATIN SCHOOL AND ENGLISH HIGH SCHOOL.

Head Masters	\$3,000 00
Masters	2,000 00
Masters' Assistants	1,200 00
Teachers, first year	700 00
with an annual increase of \$50 until \$950, the maximum, is reached.	
Assistant Teachers, first year	500 00
" " second year and each succeeding year	600 00

RINDGE MANUAL TRAINING SCHOOL.

Head Master	\$3,000 00
Master's Assistant	1,300 00
Teachers' salaries range from \$700 to \$1,500.	

WELLINGTON TRAINING SCHOOL.

Master	\$2,800 00
Supervising Teachers (three) first year	900 00
" " second year and each succeeding year	1,000 00
Master's Assistant, first year	800 00
" " second year and each succeeding year	900 00
Teachers of the eighth grade	700 00
Teachers of the seventh grade (one year's experience)	450 00
Teachers of the other grades	250 00

GRAMMAR AND PRIMARY SCHOOLS AND KINDERGARTENS.

Masters of grammar schools, maximum	\$2,300 00
Submasters, first year	1,000 00
with an annual increase of \$100 until \$1,400, the maximum, is reached.	
Masters' Assistants, first year	800 00
" " second year and each succeeding year	900 00
Teachers of the ninth grade, first year	750 00
" " " " second year and each succeeding year	800 00
Special Teachers in grammar schools, first year	700 00
" " " " second year and each succeeding year	750 00
Principals of primary schools, first year	700 00
" " " " second year and each succeeding year	750 00
with five dollars additional for each room under her supervision.	
Teachers of grammar and primary schools and of kindergartens, first year	450 00
with an annual increase of \$50 until \$700 is reached.	

Assistant teachers, that is, teachers not in charge of a room, are paid \$450 the first year, \$500 the second, and \$550 the third and each succeeding year; and, in the case of assistants in the kindergartens, \$600 for the fourth and each succeeding year.

SUBSTITUTES.

The pay of a substitute teacher in a high school, who is employed temporarily, is \$2.50 a day; if employed one month or more, it is at the rate of \$500, \$600 or \$700 a year, the sum to be determined by the superintendent, who shall consider the experience of the teacher and the position to be filled, in fixing the sum.

The pay of a teacher who is employed temporarily as a substitute in a grammar school, a primary school, or a kindergarten, is \$1.00 a session; if employed one month or more, it is at the rate of \$450 a year.

SPECIAL TEACHERS AND OFFICERS.

Director of Music	\$2,000 00
Assistant Teacher in Music	850 00
Director of Drawing	2,000 00
Assistant Teacher in Drawing	800 00
Director of Nature Study (three-fifths time)	1,000 00
Director of Physical Training	950 00
Instructor in Physical Training in the High Schools	850 00
Director of Sewing	700 00
Teachers of Sewing	600 00
Superintendent of Schools	3,500 00
Supervisor of Primary Schools	1,300 00
Agent of the School Committee	2,100 00
Truant Officers (four are employed)	1,000 00
Secretary of the School Committee	400 00
Page of the School Committee	25 00
Secretary and Librarian of the Latin School	600 00
Secretary and Librarian of the English High School	600 00
Secretary and Librarian of the Rindge Manual Training School	600 00

EVENING SCHOOLS.

Principal of Mechanical Drawing School, per evening	\$4 00
Principal of High School " "	4 00
Principal of Elementary Schools " "	3 00
Teachers in Drawing Schools " "	3 00
Teachers in High School " "	2 00
Teachers in Elementary Schools " "	1 50

CONCLUSION.

The preceding pages give a systematic account of the manner in which the Cambridge schools are conducted.

Beginning with the kindergartens and ending with the three high schools, Cambridge has a notable equipment for the work of popular education.

The Rindge Manual Training School has greatly increased facilities for academic work now that the whole of the Washington building is used for this school.

The new Houghton School on Putnam Avenue adds another substantial building to the list of Cambridge schools. In this building there are all the grades of the common schools and also a kindergarten.

The addition to the Roberts School has relieved crowded rooms, and has made possible a better adjustment of work.

There have been many occasions on which the adult members of the communities about the schools have assembled in the halls or in the schoolrooms to be instructed by lectures, to be entertained by music, or to see and to hear the work of the children. All these meetings have helped to a better understanding of the spirit of the schools.

The mothers' meetings, which are held regularly in connection with the kindergartens, have been supplemented by meetings for the parents of children who are in the grades. These, too, have contributed to that better understanding which unites home and school in efforts for the good of the children.

Gifts of works of art for the adornment of rooms and halls have been made.

The value of the schools in any community is not measured by the cost of the buildings and the equipment, by the quantity of the books and supplies furnished, by the works of art by which rooms and halls are made attractive, nor even by the course of study that is pursued, but by the quality of the life that teachers and pupils are living together in the schools.

The good life together cannot be quite the same in any two schoolrooms, for individuality in teacher and in pupils must have the largest expression consistent with regard for the general good.

In the school in which teacher and pupils are living this good life together the work of the pupils is not viewed by them as task, but as privilege. The quality of the leadership determines the spirit of those who are led, and the good teacher in the power of the spirit of good will works with a company of young people who are happy because their work is done with earnestness and with success.

Ray Greene Huling, head master of the English High School, has written the following in memory of his predecessor, Frank A. Hill, the late secretary of the State Board of Education.

"He was uniformly successful and inspiring, always commanding the respect, love and loyalty of his pupils. Former pupils tenderly recall how clearly he detected the possibilities in them which they themselves failed to see and by power of encouragement actually developed in them fine and enduring qualities of heart and mind."

This is the supreme privilege of the teacher "by the power of encouragement to develop in pupils fine and enduring qualities of heart and mind." To such service all who teach are called.

In closing I thank you, the members of the school committee of Cambridge, and all, who are in any way connected with the schools, for the great kindness with which I have been received.

Respectfully submitted,

WILLIAM C. BATES,
Superintendent of Public Schools.

IN SCHOOL COMMITTEE, February 15, 1906.

Ordered, That the report of the superintendent as read and outlined by him be accepted and adopted as the annual report of the school committee for 1905, and that the secretary be authorized to append the names of the members of the school committee thereto.

SANFORD B. HUBBARD,
Secretary.

Members of the School Committee for 1905.

AUGUSTINE J. DALY, *Chairman ex officio.*

WARREN P. ADAMS.	MARY E. MITCHELL.
GEORGE W. BICKNELL.	WILLIAM TAGGARD PIPER.
CAROLYN P. CHASE.	J. HENRY RUSSELL.
EDWIN L. CHENEY.	FRANK E. SANDS.
EDWARD J. KRONAN.	JOSEPH E. SHARKEY.
SHERMAN R. LANCASTER.	JOHN E. SOMERS.
JAMES A. LEW.	* CHARLES H. THURSTON.
	ROBERT WALKER.

* Resigned, December 21, 1905.

BOOKS OF INTEREST TO TEACHERS.

The following list of books has been prepared by the librarian of the Cambridge Public Library, Mr. Clarence W. Ayer, for use by the teachers of the public schools. It is arranged to bring out special topics of teaching, and to include some of the representative aids to teachers in all subjects. Teachers are welcome to consult the books on the shelves in the stack.

EDUCATION, GENERAL.

Ascham. The scholemaster. 1884	370-A23
Baker. Education and life. 1900	370.4-B17
Boone. Science of education. 1904	370-B64
Briggs. Routine and ideals. 1904	370.4-B761
——— School, college, and character. 1901.	370.4-B76
Butler. The meaning of education. 1898	370.4-B97
Butler, ed. Education in the United States. 2 v. 1900	370.4-B972
Comenius. The great didactic. 1896.	370-C73
——— Orbis pictus. 1887	370-C731
Currie. Principles and practice of common school education. 188—	370-C93
Davidson. Rousseau and education according to nature. 1898	370-D28
De Garmo. Interest and education. 1902	370-D36
Dewey. The school and society. 1899	370.4-D51
Dutton. Social phases of education in the school and the home. 1899	370.4-D95
Eliot. Educational reform. 1898	370.4-E14
Felkin. Introduction to Herbart's science and practice of educa- tion. 1895	370.1-F33
Fitch. Educational aims and methods. 1900	370.4-F55
Fletcher, ed. Sonnenschein's cyclopædia of education. 1889	370.3-F63
Hanus. Educational aims and educational values. 1899	370.4-H19
——— A modern school. 1904	370.4-H191
Hart. Studies in American education. 1895	370.4-H25
Henderson. Education and the larger life. 1902	370.4-H38
Herbart. Outlines of educational doctrine. 1901	370-H41
Horne. Philosophy of education. 1904	370.1-H78
Huxley. Science and education. 1894	370.4-H98
Kay. Education and educators. 1883	370-K18
Kiddle and Schem, eds. Cyclopædia of education. 1877	370.3-K53
——— Dictionary of education and instruction. Based upon the <i>Cyclopædia of education</i> . 1881	370.3-K532
Locke. Some thoughts concerning education. 1880	370-L79
Lyttelton, and others. Thirteen essays on education. 1891	370.4-L99
McMurry. Elements of general method, based on the principles of Herbart. 1903	370.1-M22
Mann. [Life and works of Horace Mann. Ed. by Mrs. Mann.] 5 v. 1891	370.8-M313
Moncrieff. A book about dominies. 1869	370.4-M74
Montaigne. Education of children. 1899	370-M76
Morgan, comp. Educational mosaics: a collection from many writers (chiefly modern) of thoughts bearing on educational questions of the day. 1887	370-M82
Mullany. Essays educational. By Brother Azarias. 1896	370.4-M91

Page. The rebuilding of old commonwealths. [Southern states.] 1902	370.4-P14
Patterson, comp. Patterson's college and school directory of the United States and Canada. 1905	R
Payne. Contributions to the science of education. 1886	370.4-P291
——— Lectures on the science and art of education. 1884	370.4-P29
Peaslee. Thoughts and experiences in and out of school. 1900	370.4-P32
Rosenkranz. Philosophy of education. 1893	370.1-R72
Rousseau. Emile; or, concerning education. Tr. by Eleanor Worthington. 1888	370-R7652
——— Emile; or, treatise on education. Tr. by W. H. Payne. 1893	370-R7651
Schwickerath. Jesuit education. 1903	370-Sch98
Spalding. Education and the higher life. 1890	370.4-Sp16
——— Means and ends of education. 1901	370.4-Sp163
——— Opportunity, and other essays and addresses. 1900	370.4-Sp163
——— Thoughts and theories of life and education. 1901	370.4-Sp164
Spencer. Education, intellectual, moral, and physical. 1898	370-Sp3
Tarver. Debateable claims: essays on secondary education. 1898	370.4-T17
——— Some observations of a foster parent. 1899.	370.4-T171
Tate. Philosophy of education. 1885	370.1-T18
Walker. Discussions in education. 1899	370.4-W15

HISTORY OF EDUCATION.

Balfour. Educational systems of Great Britain and Ireland. 1898	370.9-B19
Boone. Education in the United States. 1889	370.9-B 64
Compayré. History of pedagogy. 1888	370.9-C73
Cubberley. Syllabus of lectures on the history of education, with selected bibliographies. 2 v. 1902	370.9-C89
Davidson. Aristotle and ancient educational ideals. 1892	370.9-D28
——— Education of the Greek people, and its influence on civilization. 1894	370.9-D281
Dexter. History of education in the United States. 1904	370.9-D52
Hailman. Twelve lectures on the history of pedagogy. 1874	370.9-H12
Kemp. History of education. 1901	370.9-K32
Laurie. Historical survey of pre-Christian education. 1895	370.9-L37
——— Studies in the history of educational opinion from the renaissance. 1903	370.9-L371
Monroe. Source book of the history of education for the Greek and Roman period. 1901	370.9-M75
——— Text-book in the history of education. 1905	370.9-M751
Munroe. The educational ideal. 1895	370.9-M92
Painter. History of education. 1893	370.9-P16
Quick. Essays on educational reformers. 1890	370.9-Q4
Seeley. History of education. [1899]	370.9-Se3
West. Alcuin and the rise of the Christian schools. 1892	370.9-W52
Woodward. Vittorino da Feltre and other humanist educators. 1897	370.9-W87

TEACHING AND METHODS.

Abbott. The teacher. 1884	371-Ab2
Baldwin. Art of school management. 1881	371-B19
——— Psychology applied to the art of teaching. 1892	371-B191
Barnett. Common sense in education and teaching. 1899	371-B261

Barnett, <i>ed.</i> Teaching and organisation. 1897	371-B26
Beale, <i>and others.</i> Work and play in girls' schools. 1898	371-B36
Blakiston. The teacher: hints on school management. 1879	371-B58
Brooks. Normal methods of teaching. 1887	371.3-B79
Compayré. Lectures on pedagogy. 1890	371-C73
De Garmo. The essentials of method. 1899	371.3-D36
——— Herbart and the Herbartians. 1896	371.4-D36
Dodd. Introduction to the Herbartian principles of teaching. 1896	371.4-D66
Fitch. Lectures on teaching. 1887	371-F55
Froebel. The education of man. 1892	371.4-F92
Herbart. A B C of sense-perception, and minor pedagogical works. 1896	371.4-H41
Hill. Seven lamps for the teacher's way. 1904	371-H55
Hinsdale. Art of study. 1900	371.3-H59
Hughes. Froebel's educational laws for all teachers. 1898	371.4-H87
——— Mistakes in teaching. 1889	371-H87
Johonnot. Principles and practice of teaching. 1891	371-J66
Kiddle, <i>and others.</i> How to teach. 1877	371.3-K53
Landon. Principles and practice of teaching and class management. 1894	371-L23
——— School management. 1903	371-L231
McMurry and Morton. Method of the recitation. 1903	371.3-M229
Page. Theory and practice of teaching. 1885	371-P14
Parker. Notes of talks on teaching. 1891	371-P221
Patrick. Elements of pedagogics. 1895	371-P27
Pestalozzi. How Gertrude teaches her children. 1894	371.4-P43
——— Leonard and Gertrude. 1885	P437L
Pinloche. Pestalozzi and the foundation of the modern elementary school. 1901	371.4-P65
Prince. Courses and methods. 1886	371.3-P93
Putnam. Manual of pedagogics. 1895	371-P98
Rosenkranz. Pedagogics as a system. 1872	371-R72
Salmon. Art of teaching. 1898	371-Sa3
Schæffer. Thinking and learning to think. 1901	371-Sch1
Search. An ideal school. 1901	371-Se1
Smith. Systematic methodology. 1900	371-Sm5
Swett. Methods of teaching. 1880	371-Sw4
Thring. Theory and practice of teaching. 1883	371-T41
Tompkins. Philosophy of school management. 1895	371-T59
White. Elements of pedagogy. 1886	371-W58
——— School management. 1893	371.5-W58
Wilson. Pedagogues and Parents. 1904	370.4-W69
Wyman. Progress in school discipline. 1867	371.5-W98

ELEMENTARY EDUCATION.

Aber. An experiment in education. 1897	372-Ab3
Arnold. Waymarks for teachers. 1895	372-Ar6
Bryant. How to tell stories to children. 1905	372-B84
Comenius. School of infancy. 1893	372-C73
Currie. Principles and practice of early and infant school education. 1887	372-C93
George. The plan book. Intermediate grades. 3 v. 1899-1900	372-G29
——— The plan book. Primary. 3 v. 1897-98	372-G291
Malleson. Notes on the early training of children. 1897	372-M29

National education association. Report of the committee of fifteen on elementary education. 1895	372-N21
Oppenheim. Development of the child. 1898	372-Op5
Warner. The nervous system of the child. 1900	372-W241
—— Study of children, and their school training. 1897	372-W24
Willis and Farmer. Month by month books. 3 v. 1904	372-W67
Wiltse. Place of the story in early education, and other essays. 1902	372-W71

KINDERGARTEN.

Barnard, ed. Kindergarten and child culture papers. 1884	372.2-B25
Bates. Kindergarten guide. 1897	372.2-B31
Blow. Letters to a mother on the philosophy of Froebel. 1899	372.2-B621
—— Symbolic education: a commentary on Froebel's "Mother play." 1894	372.2-B62
Boston collection of kindergarten stories. 4th ed. 1904	372.2-B65
Froebel. Education by development: the second part of the <i>Pedagogics of the Kindergarten</i> . 1899	372.2-F921
—— Mottoes and commentaries of Friedrich Froebel's "Mother play." 1895	372.2-F9212
—— Pedagogics of the kindergarten. 1895	372.2-F92
—— Songs and music of Friedrich Froebel's "Mother play." 1895	372.2-F9211
Gregory. Practical suggestions for kindergartners, primary teachers, and mothers. 1893	372.2-G86
Hailman. Kindergarten culture. 1873	372.2-H12
Harrison. Study of child-nature from the kindergarten standpoint. 1892	372.2-H24
Hubbard, comp. Merry songs and games for the use of the kindergarten. 1887	372.2-H86
Kriege. The child, its nature and relations: an elucidation of Froebel's principles of education. 1872	372.2-K89
Lindsay. Mother stories. 4th ed. 1903	372.2-L64
—— More mother stories. 1905	372.2-L641
Marenholtz-Bülow. The child and child-nature. 1894	372.2-M33
Poulsen. Holiday songs and every day songs and games. 1904	372.2-P86
—— In the child's world. 1893	372.2-P861
—— Nursery finger plays. 1893	372.2-P862
Riggs. Children's rights. 1892	372.2-R44
Riggs, ed. The kindergarten. 1893	372.2-R441
Riggs and Smith. Froebel's gifts. 1895	372.2-R4411
—— Froebel's occupations. 1896	372.2-R4412
—— Kindergarten principles and practice. (The republic of childhood, v. 3.) 1896	372.2-R4413
Shirreff. The kindergarten at home	372.2-Sh61
—— The kindergarten: principles of Fröbel's system and their bearing on the education of women. 1889	372.2-Sh6
Smith. Children of the future. 1898	372.2-Sm6
Walker. Varied occupations in string work. 1896	372.2-W151
—— Varied occupations in weaving. 1895	372.2-W15
Walker and Jenks. Songs and games for little ones. 1887	372.2-W1147
Wiltse. Kindergarten stories and morning talks. 1898	372.2-W71

PUBLIC SCHOOL SYSTEM.

Bradbury. The Cambridge high school: history and catalogue. With its early history [1847-56], by Elbridge Smith. 1882	379-C14
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Brown. The making of our middle schools: an account of secondary education in the United States. 1903	379-B81
Chancellor. Our schools: their administration and supervision. 1904	379-C36
Craik. The state in its relation to education. 1884	379-C845
Dodge. Our common school system. 1880	379-D663
Eliot. More money for the public schools. 1903	379-EL43
Hinsdale. Horace Mann and the common school revival in the United States. 1898	379-H59
Hughes. The making of citizens: a study in comparative education. 1902	379-H87
Johnson. Old-time schools and school-books. 1904	379-J621
Martin. Evolution of the Massachusetts public school system. 1894	379-M36
National educational association. Report of the committee of ten on secondary school studies. 1894	379-N21
Palmer. The New York public school. 1905	379-P18
Pickard. School supervision. 1890	379-P58
Rice. Public-school system of the United States. 1893	379-R36
Roark. Economy in education. 1905	379-R53
Ware. Educational foundations of trade and industry. 1901	379-W22

TEACHING OF SPECIAL SUBJECTS.

READING.

Badlam. Suggestive lessons in language and reading for primary schools. 1897	372-B14
McMurry. Special method in primary reading and oral work with stories. 1903	372-M22
Laing. Reading. 1901	372-L14

LANGUAGE AND LITERATURE.

Bain. On teaching English. 1887	808-B16
Carpenter, and others. Teaching of English in the secondary school. 1903	420-C22
Chubb. Teaching of English in the elementary and the secondary school. 1902	428-C47
Collins. The teaching of German in secondary schools. 1904	430.7-C69
Gouin. Art of teaching and studying languages. 1892	407-G72
Hinsdale. Teaching the language-arts. 1896	407-H59
McMurry. Special method in the reading of complete English classics in the grades of the common school. 1903	807-M22
Rolfe. Elementary study of English. 1896	807-R64
Sweet. Practical study of languages. 1900	407-Sw3

NATURE STUDY AND SCIENCE.

Bailey. The nature-study idea. 1903	507-B15
Birds. List of books on. In <i>Cambridge Public Library Bulletin</i> , March, 1901	R
Carter. Nature study with common things: an elementary laboratory manual. 1904	580.7-C24
Cornell university. College of Agriculture. Teacher's leaflets on nature-study, nos. 1-22. 1896-1901	507-C81

Engell. Outlines in nature study and history. 1900	507-En3
Ganong. The teaching botanist. 1899	580.7-G15
Harris. How to teach natural science in public schools. 1893	507-H24
Hodge. Nature study and life. 1902	507-H63
Howe. Advanced elementary science: part 2 of Systematic science teaching. 1930	507-H831
———. Systematic science teaching. 1894	507-H83
Jackman. Nature study for the common schools. 1892	507-J13
McMurry, C. A. Special method in arithmetic. 1905	511-M222
———. Special method in elementary science for the common school. 1904	507-M22
———, L. B. Nature study lessons for primary grades. 1905	507-M225
Overton and Hill. Nature study: a pupil's text-book. 1905	507-Ov2
Smith and Hall. Teaching of chemistry and physics in the secondary school. 1902	540.7-Sm5
Smith. Teaching of elementary mathematics. 1900	510.7-Sm5
Wilson. Nature study in elementary schools. 1897	507-W69

HYGIENE AND SANITATION.

Bancroft. School gymnastics with light apparatus. 1901	371.7-B22
———. School gymnastics, free hand. 1902	371.7-B221
Barry. Hygiene of the schoolroom. 1903	371.7-B27
Burrage and Bailey. School sanitation and decoration. 1899	371.6-B94
Colburn. Graded physical exercises. 1901	371.7-C67
Harvey. Teacher's manual of physical exercises. 1894	613.7-H26
Lincoln. School and industrial hygiene. 1880	613-L63
Lishman, ed. A drill book for elementary schools. 1901	371.7-L68
Massachusetts emergency and hygiene association. Six lectures upon school hygiene. 1886	613-M38
Rowe. Physical nature of the child and how to study it. 1899	612-R79
Shaw. School hygiene. 1901	371.7-Sh2
Stoneroad. Gymnastic stories and plays for primary schools. 1898	613.7-St7

MANUAL AND INDUSTRIAL TRAINING.

Gilman and Williams. Seat work and industrial occupation: a practical course for primary grades. 1905	372-G42
Ham. Manual training. 1886	371.4-H17
Hapgood. School needlework. 1893	646-H211
Herrick. Meaning and practice of commercial education. 1904	650.7-H43
Hildreth. Clay modeling in the school-room. 1892	372-H54
Jackson and Daugherty. Agriculture through the laboratory and the school garden. 1905	630.7-J12
Knapp. Raphia and reed weaving, including also cardboard and paper construction. 1902	372-K72
Massachusetts. Manual training commission. Report of the commission appointed to investigate the existing systems of manual training and industrial education. 1893	371.4-M38
Salomon. Slöjd in the service of the school. 1888	694-Sa32
———. Teacher's hand-book of slöjd, as practised and taught at Näs. 2d ed. 1900	694-Sa3
———. Theory of educational slöyd. 2d ed. 1900	694-Sa31
Stetson. Technical education. 1874	607-St4
Tadd. New methods in education: art, real manual training, nature study. 1899	371.4-T12

- Wilson, ed. Handbook of domestic science and household arts for use in elementary schools. 1900 640-W69
 Woodward. The manual training school. 1887 371.4-W871

ART AND SCHOOL ARCHITECTURE.

- Briggs. Modern American school buildings. 1899 727-B76
 Emery. How to enjoy pictures, with a chapter on pictures in the schoolroom. 1898 750-Em3
 Hemenway. How to make school gardens. 1903 716-H37
 Miller. Children's gardens for school and home: a manual of co-operative gardening. 1904 716-M61
 Walker. Instructive and ornamental paper work. 1901 746-W15
 Wheelwright. School architecture. 1901 727-W57
 Wilson. Picture study in elementary schools. 2 v. 1899-1900 707-W69

HISTORY.

- Allen. Topical studies in American history. New ed. 1899 973-A15
 American colonial life, List of books on. In *Cambridge Public Library Bulletin, February, 1902* R
 Barnes. Studies in general history. 1886 907-B26
 Bourne. Teaching of history and civics in the elementary and the secondary school. 1902 907-B66
 Channing and Hart. Guide to the study of American history. 1896 973-C361
 Goodrich. Topics on Greek and Roman history. 1900 938-G62
 Gordy and Twitchell. Pathfinder in American history. 1893 973-G6591
 Hart, ed. American history told by contemporaries. 4 v. 1897-1901 973-H251
 ——— Source-book of American history. 1903 973-H2511
 Hinsdale. How to study and teach history. 1894 907-H59
 Kendall, ed. Source-book of English history. 1904 942-K33
 Lee. Source-book of English history. 1900 942-L51
 McMurry. Special method in history. [Grades below the high school.] 1903 907-M22
 New England history teachers' association. A history syllabus for secondary schools. 1904 907-N44
 Wilson. United States history in elementary schools. 1899 907-W69

GEOGRAPHY.

- Frye. The child and nature: geography teaching with sand modeling. 1892 910.7-F94
 King. Methods and aids in geography. 1889 910.7-K58
 McMurry. Excursions and lessons in home geography. 1904 910.7-M222
 ——— Special method in geography. 1904 910.7-M221
 ——— Teacher's manual of geography, to accompany Tarr and McMurry's series of geographies. 1904 910.7-M22
 ——— Type studies from the geography of the United States. First series. 1904 910.7-M223
 Parker. How to study geography. 1890 910.7-P22
 Redway. The new basis of geography. 1901 910.7-R24

EDUCATIONAL BIOGRAPHY.

- Arnold. Thomas and Matthew Arnold and their influence on English education. By Fitch. 1897 B-Ar66fi
 Comenius. John Amos Comenius, bishop of the Moravians: his life and educational works. By Laurie. 1885 B-C733i

- Froebel. Froebel and education by self-activity. 1893 . . . B-F922b
 Mann. Life of Horace Mann. By Mrs. Mann. 1865 . . . B-M313
 ——— Horace Mann, the educator. By Winship. 1896 . . . B-M313w
 Pestalozzi. Life and work. By Guimps. 1892 . . . B-P437g
 ——— Life, work, and influence. By Krüsi. 1875 . . . B-P437k
 Pierce. John D. Pierce, founder of the Michigan school system.
 By Hoyt and Ford. 1905 . . . B-P613h
 Winship. Great American educators, with chapters on American
 education. 1900 . . . 920-W73

PSYCHOLOGY AND CHILD STUDY.

- Baldwin. Dictionary of philosophy. 4 v. in 3. 1901-6 . . . R
 ——— Elementary psychology and education. 1887 . . . 150-B192
 Compayré. Elements of psychology. 1890 . . . 150-C73
 Dexter and Garlick. Psychology in the schoolroom. 1898 . . . 150-D52
 Hall. Adolescence. 1904. 2 v. . . . 150-H14
 Halleck. Education of the central nervous system. 1902 . . . 150-H151
 Harris. Psychologic foundations of education. 1898 . . . 150-H24
 James. Talks to teachers on psychology. 1899 . . . 150-J2311
 Judd. Genetic psychology for teachers. 1903 . . . 150-J88
 Kirkpatrick. Fundamentals of child study. 1904 . . . 150-K63
 Morgan. Psychology for teachers. 1898 . . . 150-M82
 Münsterberg. Psychology and life. 1899 . . . 150-M92
 O'Shea. Dynamic factors in education. 1906 . . . 150-Os4
 Patrick. Psychology for teachers. 1901 . . . 150-P27
 Preyer. Mental development in the child. 1893 . . . 150-P921
 ——— Mind of the child. 2 v. 1888-89 . . . 150-P92
 Shinn. Notes on the development of a child. 1893-99 . . . 150-Sh6
 Sully. Outlines of psychology. 1891 . . . 150-Su51
 ——— Studies of childhood. 1896 . . . 150-Su52
 ——— Teacher's handbook of psychology. 1897 . . . 150-Su53
 Taylor. Study of the child. 1898 . . . 150-T21
 Thorndike. Elements of psychology. 1905 . . . 150-T39
 Tracy. Psychology of childhood. 1893 . . . 150-T67

MORAL AND ETHICAL EDUCATION.

- Abbott. Gentle measures in the management of the young. 1872 . . . 173-Ab2
 Adler. Moral instruction of children. 1892 . . . 377-Ad1
 Du Bois. Point of contact in teaching. 1901 . . . 288-D85
 Garrison. Parables for school and home. 1897 . . . 170-G19
 Gilman and Jackson. Conduct as a fine art: laws of daily conduct,
 by Gilman; character building, by Jackson. 1891 . . . 170-G42
 Griggs. Moral education. 1904 . . . 377-G87
 Hughes. Loyola and the educational system of the Jesuits. 1892 . . . 377-H87

BIBLIOGRAPHY AND READING LISTS.

- Baker. Descriptive guide to the best fiction, British and American,
 including translations from foreign languages. 1903 . . . R
 Buffalo public library. Class-room libraries for public schools
 listed by grades. 1902 . . . 028-B86
 Carnegie library of Pittsburgh. Graded and annotated catalogue
 of books . . . for the use of the city [Pittsburgh] schools.
 1900 . . . R

Columbia university. Books on education in the libraries of Columbia university. 1901	016.3-C72
ixson, comp. Comprehensive subject index to universal prose fiction. 1897	016.8-D64
ranger, ed. An index to poetry and recitations. 1904	R
riswold. Descriptive list of books for the young. 1895	028-G88
ewins, comp. Books for boys and girls. 1904	028-H49
odgkins. Guide to the study of nineteenth century authors. 1889	016.8-II66
roeger. Guide to the study and use of reference books. 1902	028-K91
onroe. Bibliography of education. 1897	016.3-M75
ew international encyclopædia. Courses of reading and study. [Suppl. vol.] 1905	R
rgent. Reading for the young. 1890-96	028-Sa7
inchester. Five short courses of reading in English literature. 1892	016.8-W72

PERIODICALS AND ANNUALS.

ducational review. Vols. 1-date. 30 v. 1891-1905	370.5-Ed81
assachusetts. Education, Board of. 1st-68th annual report. 68 v. bound in 55. 1838-1905	379-M38
ational educational association. Journal of proceedings and addresses. 1874, 1892-93, 1899-1905. 10 v.	370.6-N21
----- Yearbook and list of active members. 3 v. 1903-05	370.6-N211
edagogical seminary. Vol. 1-date. 12 v. 1891-1905	370.5-P34
chool review: a journal of secondary education. Vols. 1-date. 13 v. 1893-1905	370.5-Sch61
nited States. Education, Bureau of. Reports of the commissioner of education for [1869]-date. 49 v. 1870-1905	379-Un3

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